APPENDIX C

Presentations

ENGINEERING
PLANNING
SURVEYING
PC

AGENDA

Quarterly Meeting
MPO Citizens Advisory Committee
Laramie County Library, Willow Room (1st floor)
May 15, 2019

1) Call meeting to order (introductions if needed)
2) Approval of the November 15, 2018 minutes
3) Presentation and Approval of the draft *FY '20-'23 Transportation Improvement Program*
4) 2019 Cheyenne Transit Program – Greg Singer our Operations Coordinator
5) Greenway and Trails – Richard Zita
6) Update on MPO Planning Projects
   a) *Whitney Road Corridor Plan*
   b) *2018 East Dell Range and US 30*
   c) *Parsley Boulevard Corridor Plan*
   d) *Archer Greenway and Trail Connector Plan*
   e) *Municipal Complex Pedestrian Routing Plan*
   f) *PlanCheyenne Master Transportation Plan*
   g) *Others*
7) Other Business
8) Next Meeting meeting– August 22, 2019.

MEETING MINUTES

Subject:	**Project Update Meeting**		
Client:	Metropolitan Planning Organization (MPO)		
Project:	**Whitney Road 10% Corridor Plan**	Project No:	2-3987.17
Meeting Date:	**6/09/2017 @ 2:00 PM – 3:15 PM**	Meeting Location:	MPO Office

Minutes compiled by: C. Pickett, PE and T. Cobb, PE, AVI, P.C. 6/9/2017 & 6/12/2017.

Minutes are in plain type. **Action items are in bold type.**

ATTENDEES: Nancy Olson, MPO; Tom Mason, MPO; Tom Cobb, AVI; Cassie Pickett, AVI.

TOPICS OF DISCUSSION:

I. PETROLEUM PIPELINE BACKGROUND

Two petroleum pipelines parallel Whitney Road on the East and West. A 12.75" diameter Suncor Energy petroleum pipeline runs parallel along the east borrow ditch approximately 30' off of the centerline of the existing roadway while the All American High Plains runs parallel along the west side Whitney. The exact locations of the utilities are not known at this time.

A meeting was conducted with Suncor Energy on May 9, 2017 at the Suncor offices. During that meeting Suncor conveyed the following information:

Suncor Pipeline

- Suncor believes that the easement they have executed requires any movement of the pipeline be paid by the party requiring the changes. **AVI will research and acquire a copy of the existing easement.**

- Pipeline impacts were directed to the area of Whitney between Foxglove Drive and Dell Range Blvd where approximately a 26' cut would be required to place the roadway and sidewalk at a 5% maximum vertical grade. Suncor indicated the cost to move 700' of impacted pipeline would be approximately $1,000,000. Alternatives were discussed for either horizontal or vertical options to minimize impacts but, the pipeline cost of the pipeline move apparently is due to the fact connections to the existing pipeline can only take place during scheduled shut-downs.

- Separation distances were discussed from pipeline edge to a retaining wall as an option to realignment. Suncor preferred not to entertain the use of a retaining wall due to safety concerns.

- Suncor will provide pothole services of their line at their own cost in order to provide additional information for the project. **AVI will need to contact one-call to initiate the locate**.

All American High Plains Pipeline

- All American High Plains Pipeline has not been responsive to requests for a meeting at this time. **AVI will continue to efforts to schedule a meeting.**

II. POSSIBLE DESIGN ALTERNATIVES

The following ideas were brainstormed during the discussion for possible alternatives for Whitney Road in regard to the pipeline utility impacts:

- Roadway paved shoulder over the top of the pipeline.
- Realigning Whitney Road to the west in order to leave the pipeline undisturbed.
- Realigning Whitney Road using a series of horizontal curves from Storey Blvd./ Beckel Road to Dell Range Blvd. in order to reduce the vertical grade rather than lowering the roadway profile.

AVI will investigate the feasibility of the alternatives presented and report to the Steering Committee and MPO on these options at future meetings.

III. PUBLIC INVOLVEMENT

Information Sheet

- The Information Sheet is on the MPO Website and will be used as informational handouts for people that would like a project overview.

- More information needs to be provided about the project to add to the Whitney Road Website.

Public Notification Options

- A draft of a neighborhood/ local project information and initial contact post card was discussed. Some suggestions for the cards include:

  - Find something to place on the front of the card that highlights or emphasizes the Whitney Road Corridor Study.
  - Add additional contact information for an option to be able to mail contact information.
  - An option was discussed of providing a notification sign in public locations with a Survey Monkey Link for area north of Beckel Road/ Storey to gather contact information. Given the number of residences north this would be more economical than sending the notification/ contact cards.
  - Would community mailboxes be an adequate place for an informational sign to be placed? **MPO will find GIS cluster box locations. AVI and MPO will investigate the feasibility of placement of information signs in these areas**.
  - Variable Message Signs could be utilized with the Survey Monkey Link requesting information from the public but, would be cost prohibitive.
  - The Notifications should contain the following information:

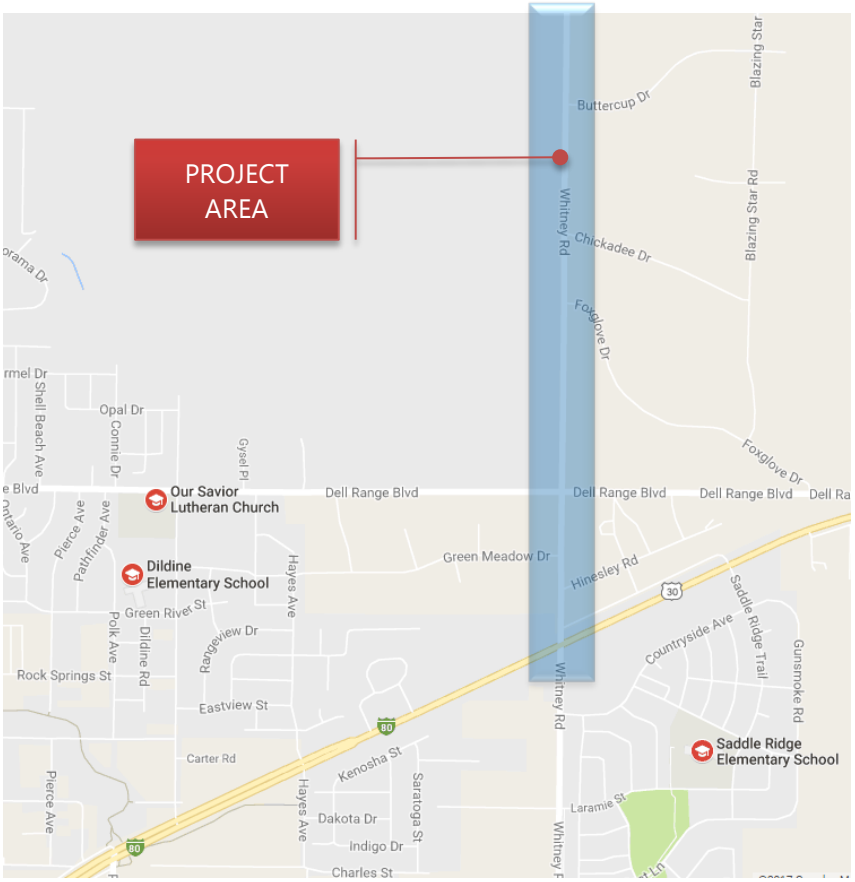
    1. Request Contact Information,

2. Available Meeting Times,
3. "How would you like to see Whitney Road Improved."

Neighborhood Meetings

The contact is setup to contain three Neighborhood Meetings and One Public Meeting. Depending on the responses from the Notification/ Contact Cards, it may better to contact two Neighborhood Meetings and two Public Meetings. This would allow some flexibility in the Public Meetings to have present alternatives and presented a recommended/ preferred option or have an informational meeting and an alternatives meeting. Meeting place options were discussed including area resident homes and Our Savior Lutheran Church. However, after reviewing the area map, feasible locations for Public and Neighborhood Meetings include:

- Our Savior Lutheran Church: 5101 Dell Range Blvd. (P) 632.2580.
- Dildine Elementary School: 4312 Van Buren Avenue (P) 771.2320.
- Saddle Ridge Elementary School: 6815 Wilderness Trail (P) 771.2360.



AVI will contact the Lutheran Church for availability and whether or not a use fee would be charged for Neighborhood or Public Meetings in the facility. Additional discussions will be required to finalize locations and dates for the meeting after the Notification/ Contact Information Cards are mailed and information is collected.

WHITNEY ROAD 10% CORRIDOR PLAN

MPO Technical Advisory Committee

June 13, 2018

STS

WYOMING TRANSPORTATION DEPARTMENT

CITY OF CHEYENNE

CHEYENNE MPO

THE GREAT SEAL OF LARAMIE COUNTY 1867 WYOMING

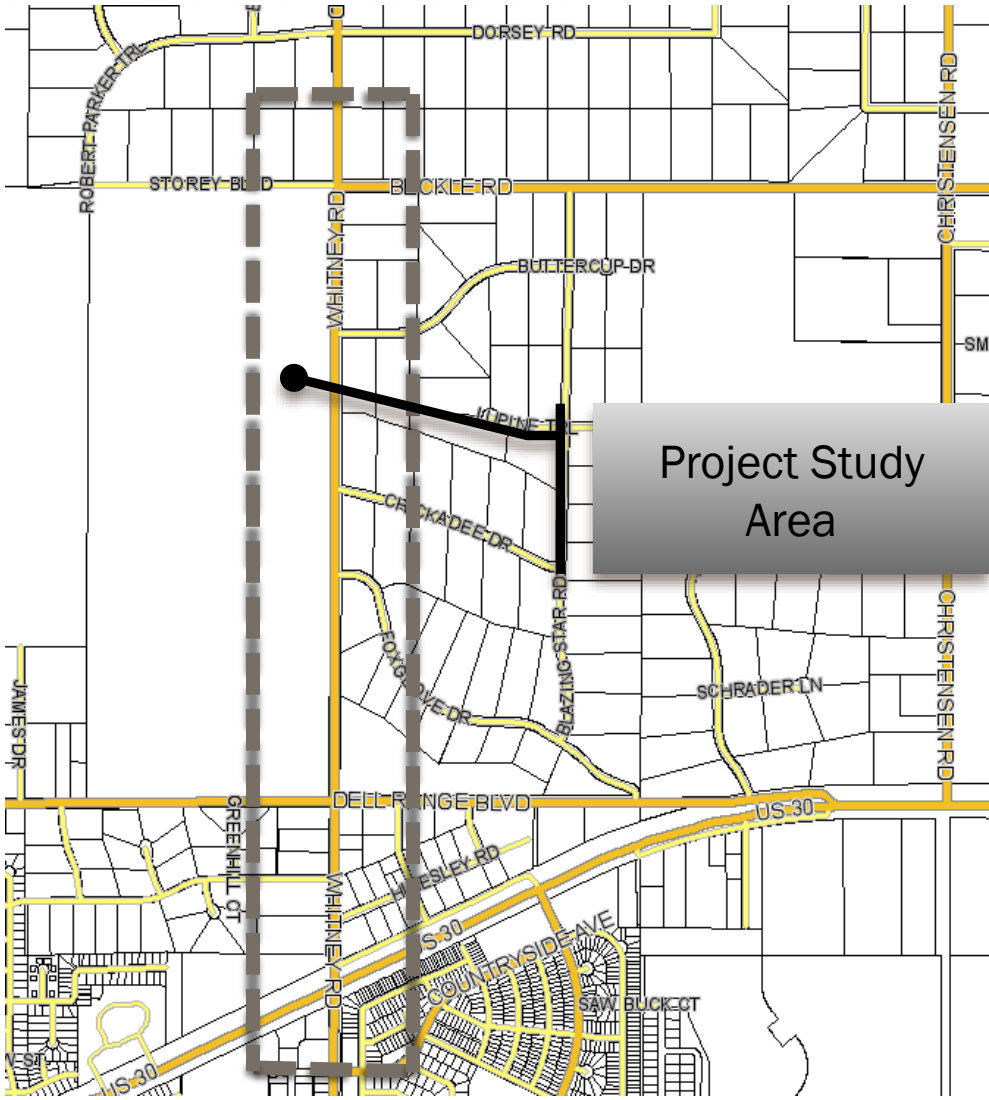
ENGINEERING PLANNING SURVEYING PC

AGENDA

- Study Area and Primary Goals
- Summary of Public Outreach
- Overview of recommended Improvements
- Questions

STUDY AREA AND PRIMARY GOALS

- Limits
  - Northern Limit – Storey Blvd./ Beckle Road
  - Southern Limit – U.S. 30
- Primary Goals
  - Understand the community and neighborhood vision for the roadway
  - Improve roadway and intersection safety and function
  - Address drainage and snow drifting



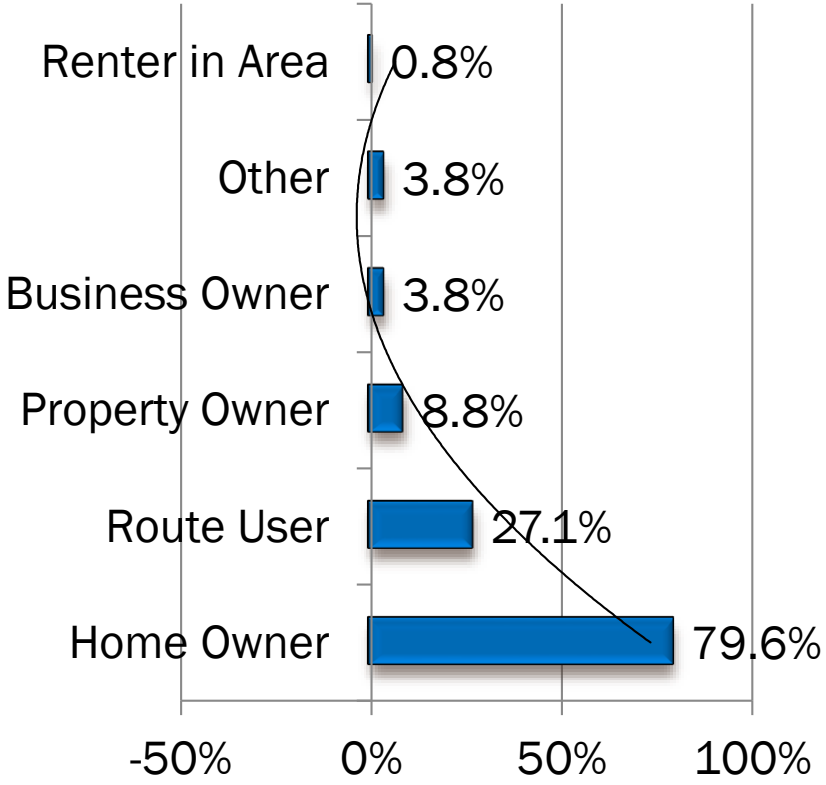
SUMMARY OF PUBLIC OUTREACH

Public Outreach Matrix

ACTIVITY	DATE(S)
Public Open House (2)	November 8, 2017; June 28, 2018
Steering Committee (2)	May 9, 2017; January 23, 2018
Suncor Energy USA Pipeline Plains All American Pipeline	May 10, 2017 October 19, 2017
Individual One-on-one Meetings w/ Land Owners	March 7, 2018 & TBT
MPO Technical Advisory Committee (1)	June 13, 2018
City Planning Commission	August 6, 2018
County Planning Commission	August 9, 2018

- Comprehensive
- Foundation
  - Transparency
  - Listening
- Strong Opinions Expressed

SUMMARY OF PUBLIC MEETING NO. 1

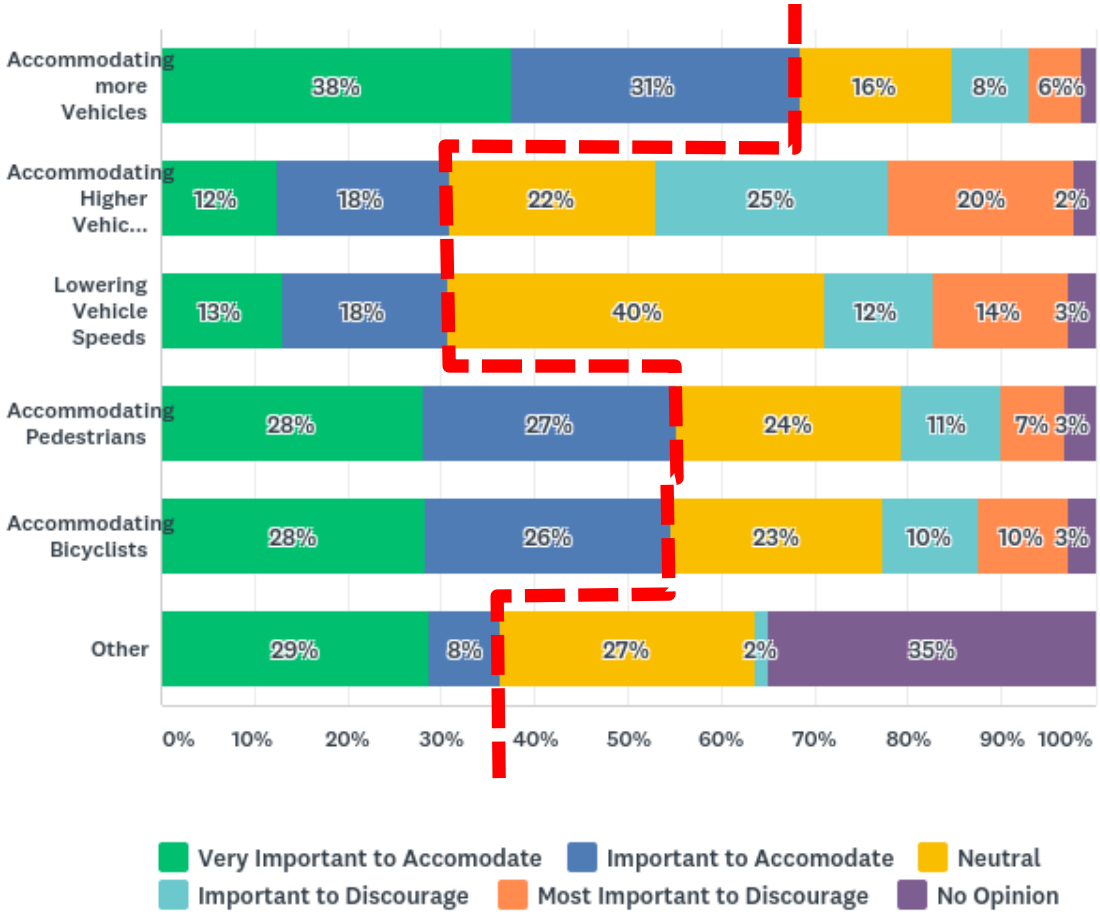


- Who attended?
  - 120 People Sign-in
  - 150 Estimated Attendance
  - 240 Responses (1/10/18)

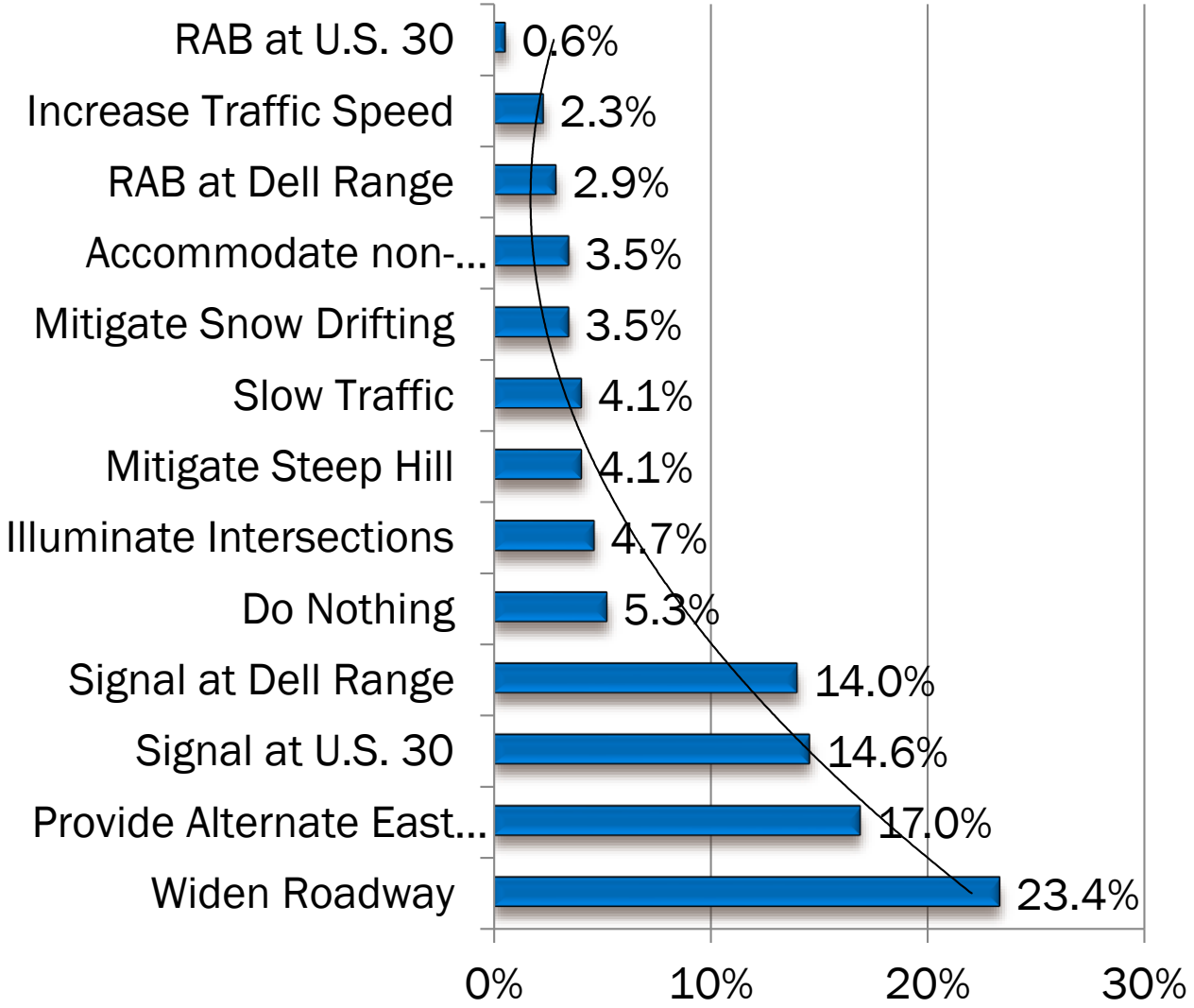
- Other: Real Estate Broker (2), Cheyenne Resident thinking of moving over there (2), Friend of homeowner in area, Homeowner in Cheyenne (1), MPO CAC Member.

SUMMARY OF PUBLIC MEETING NO. 1

Q3 Please rate the importance of the following transportation users and issues based on what you consider to be the most important design consideration for Whitney Road?



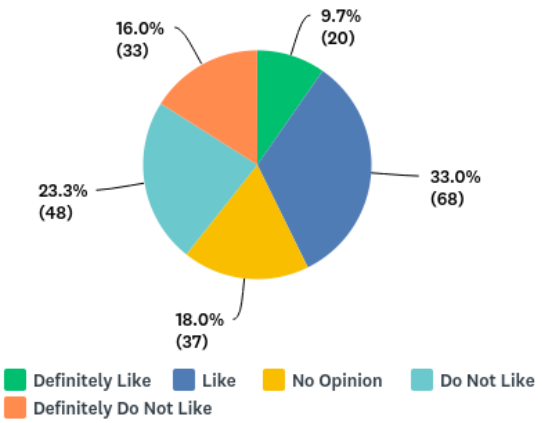
SUMMARY OF PUBLIC MEETING NO. 1



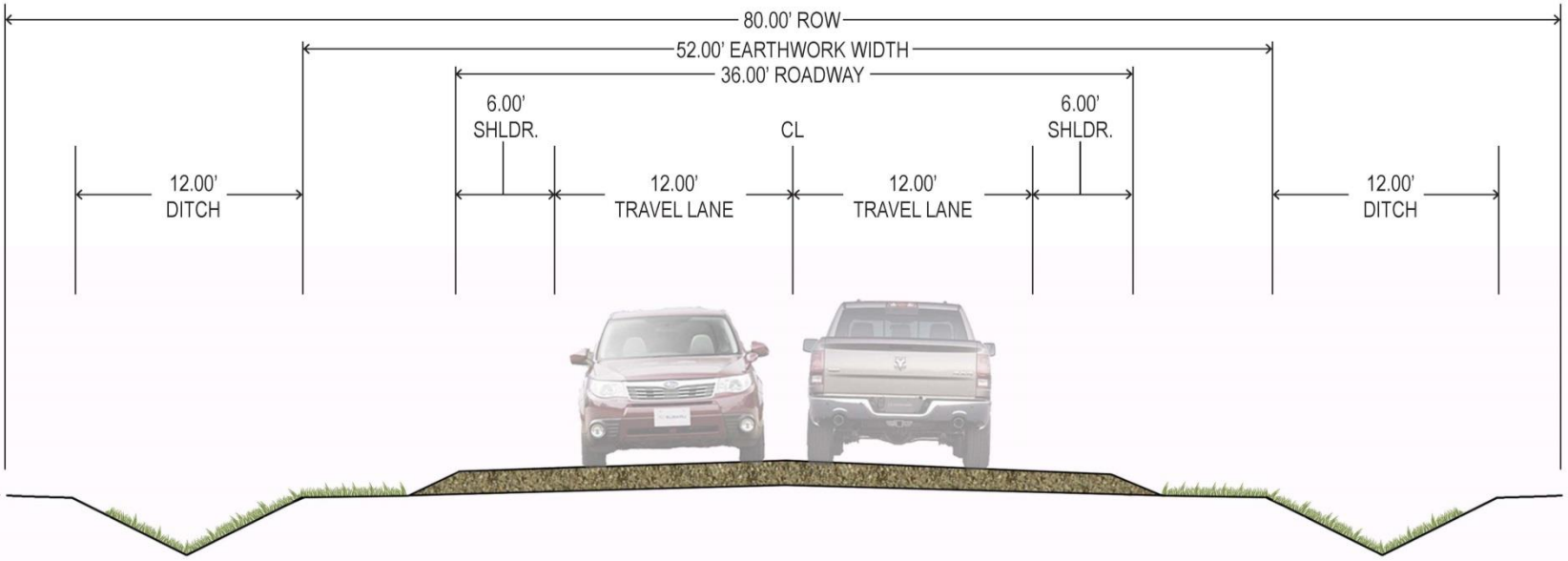
Q4: If you could make one change to the existing Whitney Road Corridor, what change would you make?

SUMMARY OF PUBLIC MEETING NO. 1

Q5 Please rate the Conceptual Rural 2 Lane Roadway Typical Section for Whitney Road shown above

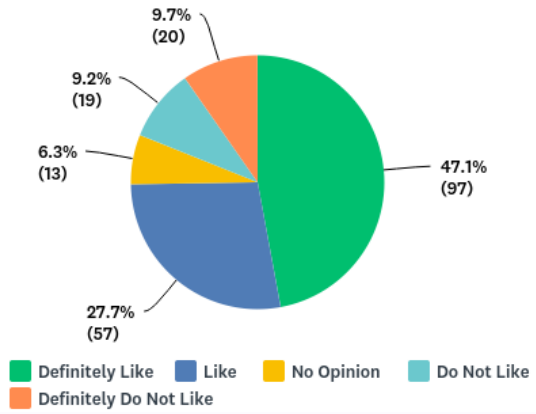


- 42.7% Definitely Like + Like
- 39.3% Do Not Like + Definitely Do Not Like

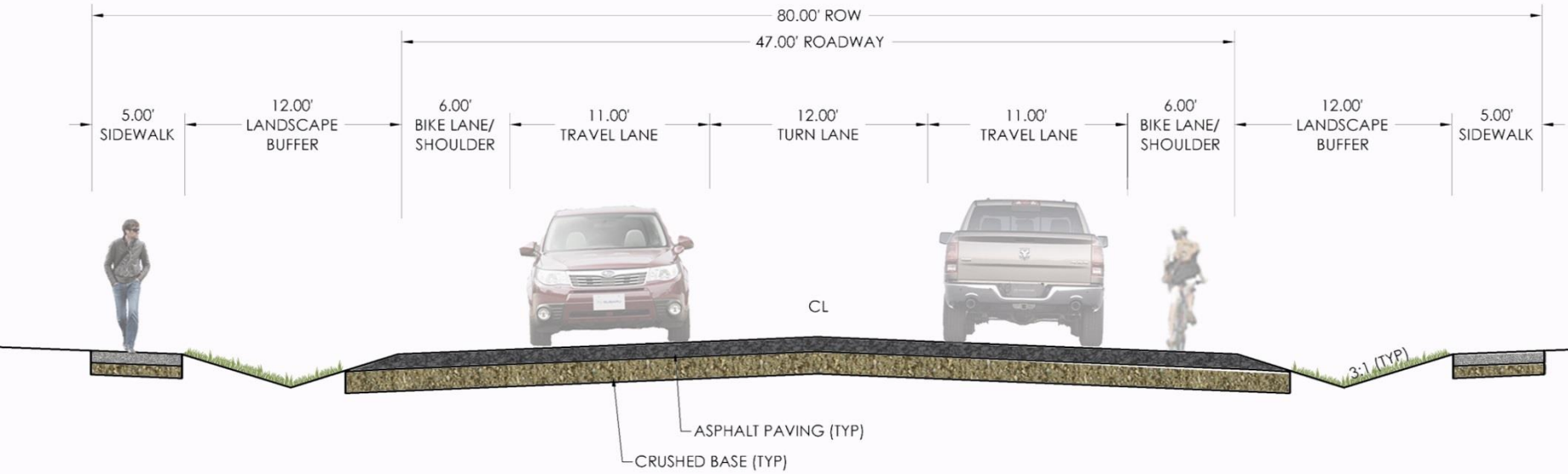


SUMMARY OF PUBLIC MEETING NO. 1

Q6 Please rate the Conceptual Rural 3 Lane Roadway Typical Section for Whitney Road shown above.

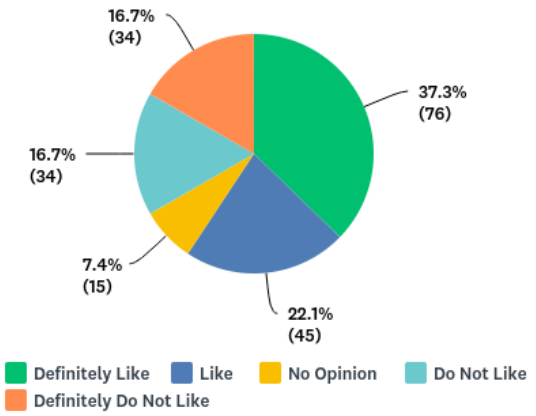


- 74.8% Definitely Like + Like
- 18.9% Do Not Like + Definitely Do Not Like

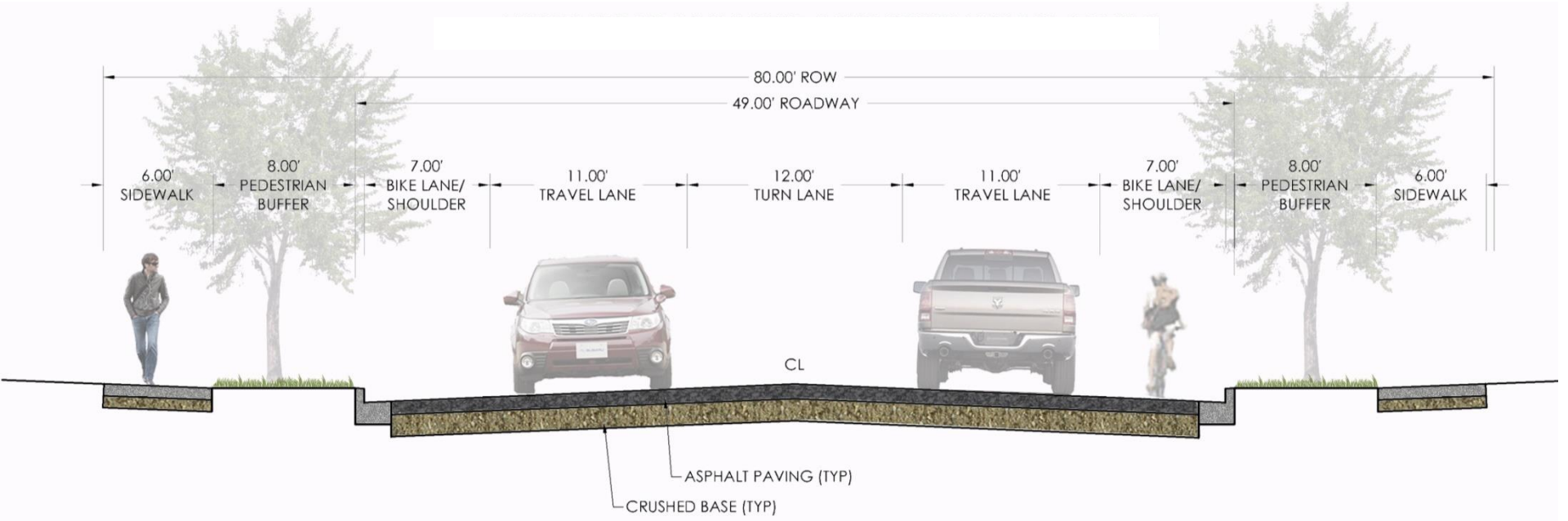


SUMMARY OF PUBLIC MEETING NO. 1

Q7 Please rate the Conceptual Urban 3 lane Roadway Typical Section for Whitney Road shown above.

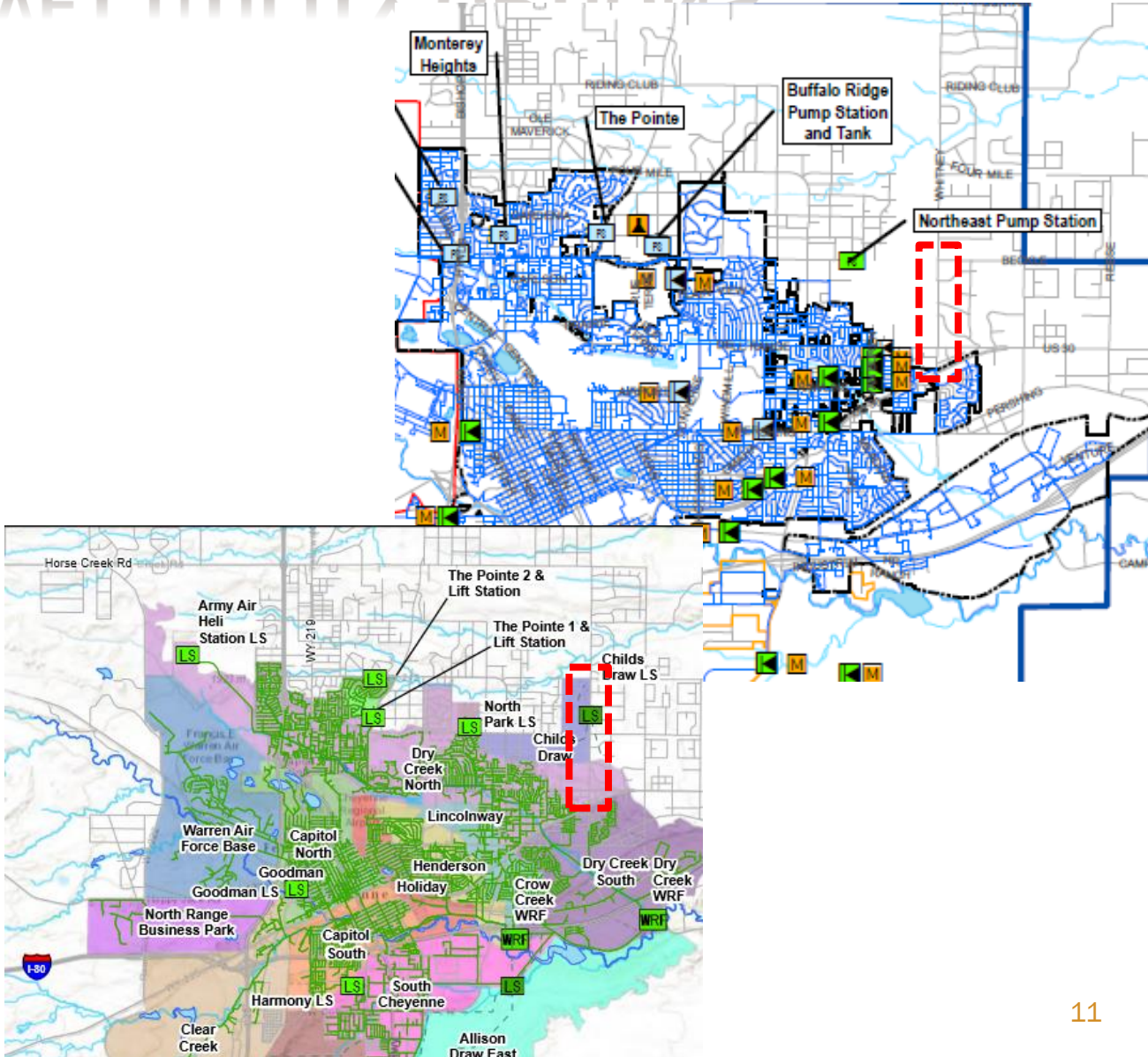


- 59.4% Definitely Like + Like
- 33.4% Do Not Like + Definitely Do Not Like



PROPOSED WET UTILITY OPTIONS

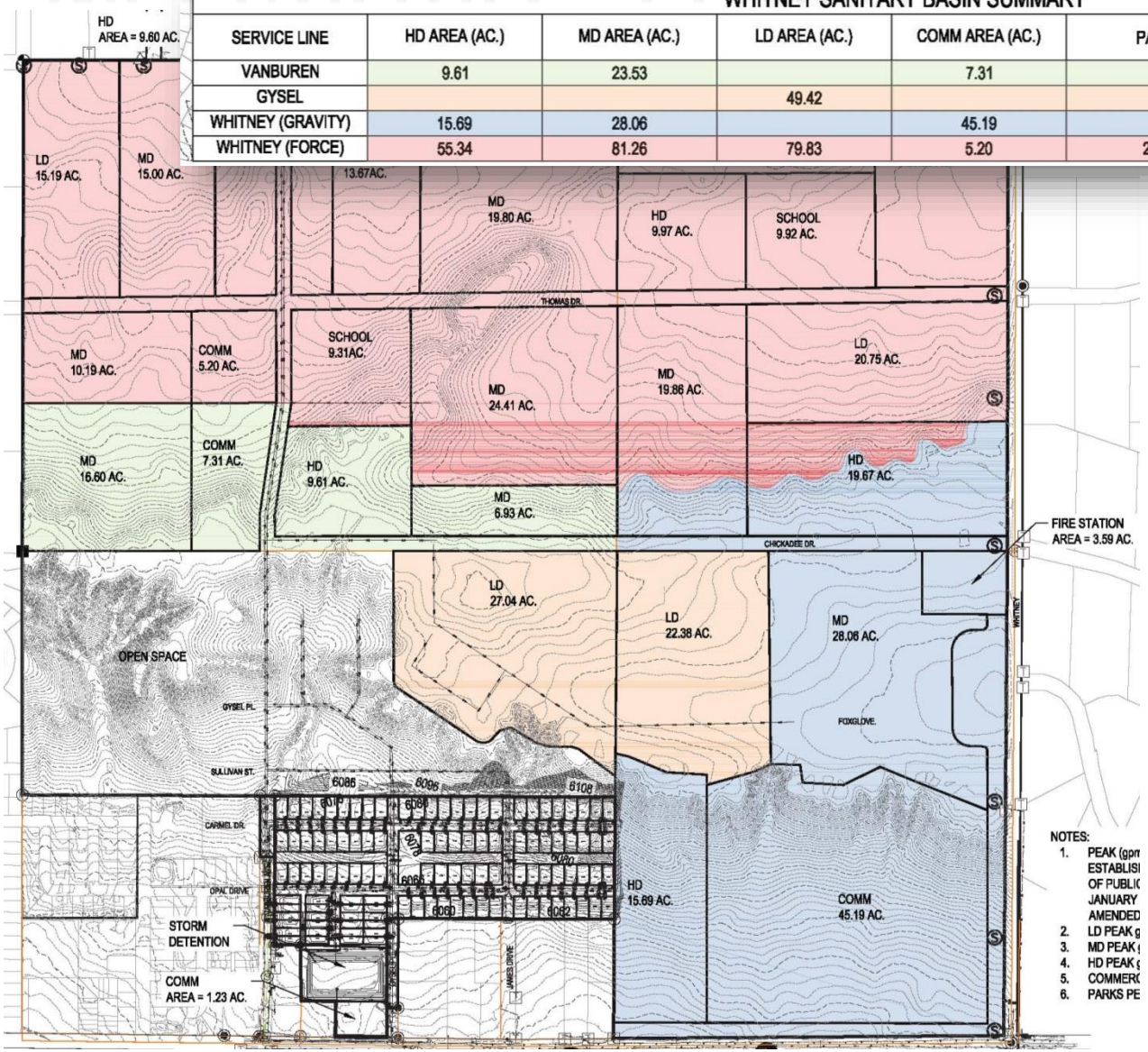
- Developer Needs vs 2013 BOPU Master Plan/ County/ City/ State Current Requirements / Needs
  - + Sewer
  - + Water
  - + Storm
    - × Detention



WET UTILITIES - SEWER

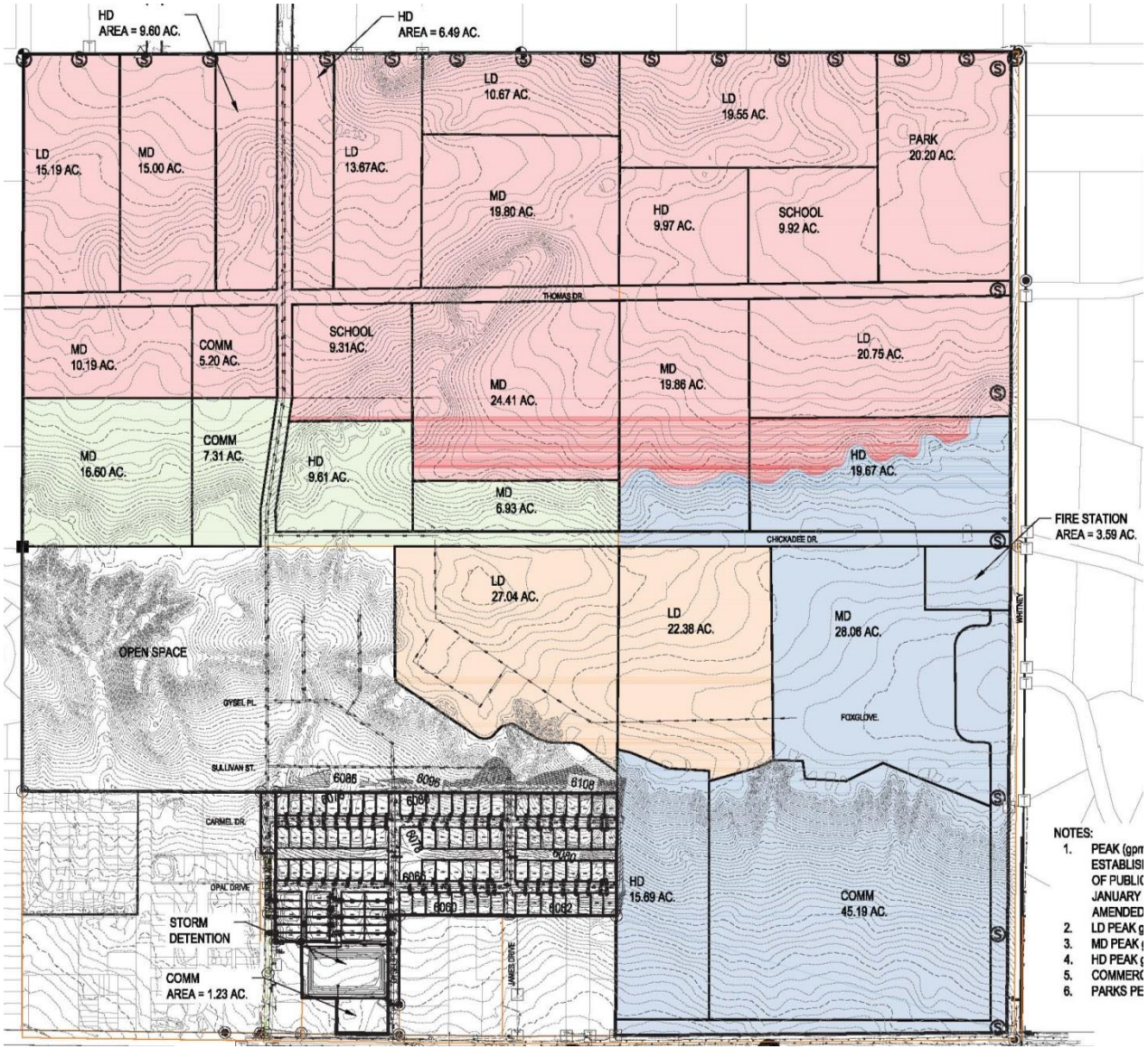
WHITNEY SANITARY BASIN SUMMARY

SERVICE LINE	HD AREA (AC.)	MD AREA (AC.)	LD AREA (AC.)	COMM AREA (AC.)	PARKS	SCHOOLS	TOTAL PEAK (gpm)
VANBUREN	9.61	23.53		7.31			100.89
GYSEL			49.42				89.95
WHITNEY (GRAVITY)	15.69	28.06		45.19			267.05
WHITNEY (FORCE)	55.34	81.26	79.83	5.20	20.20	19.23	504.82



- 504.8 gpm peak 2040 (15”)
- Lift Station Force Main at Chickadee Road

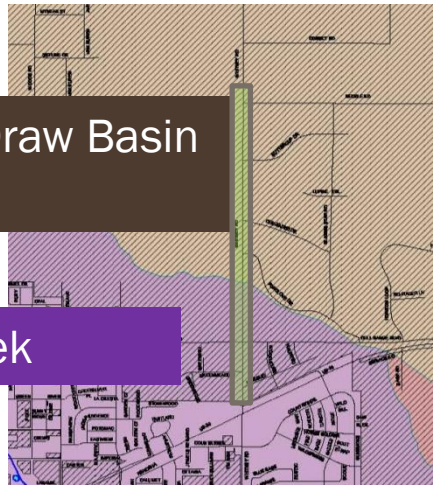
WET UTILITIES - WATER

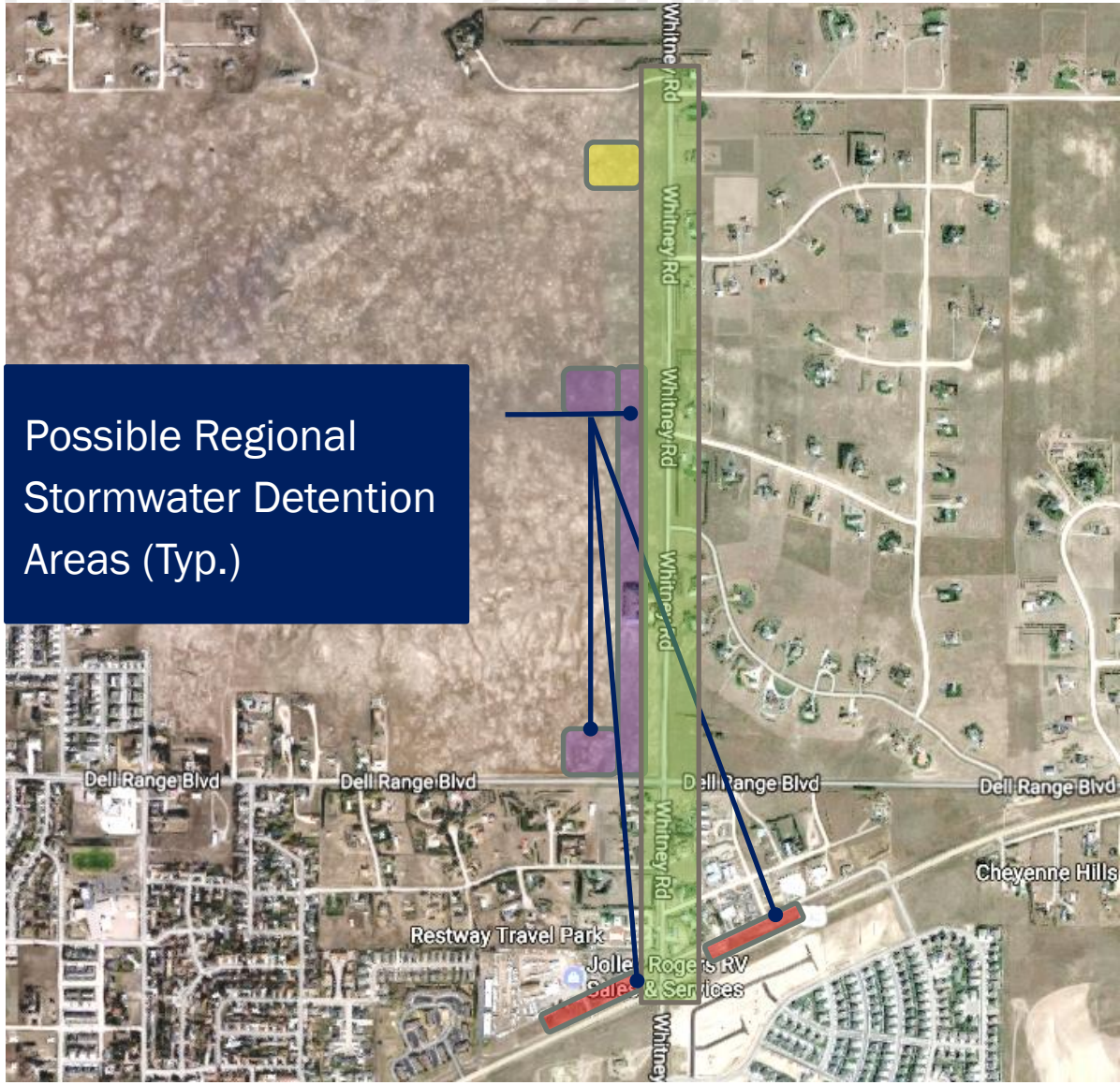


- Unknown
- Assume 12” for Looping and Fire Protection
- Long Term new Tank Connection?

PROPOSED WET UTILITIES - STORM

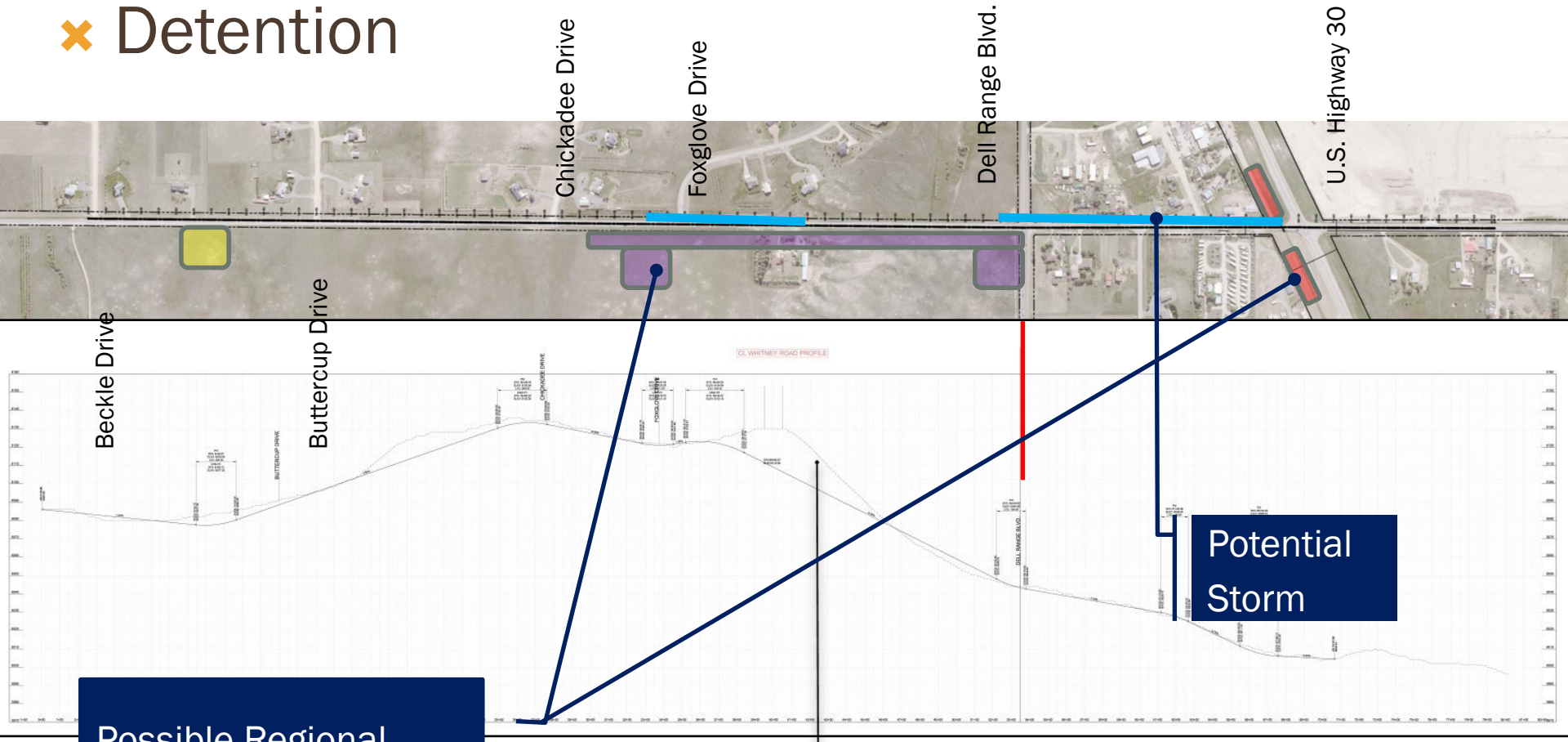
- Basins



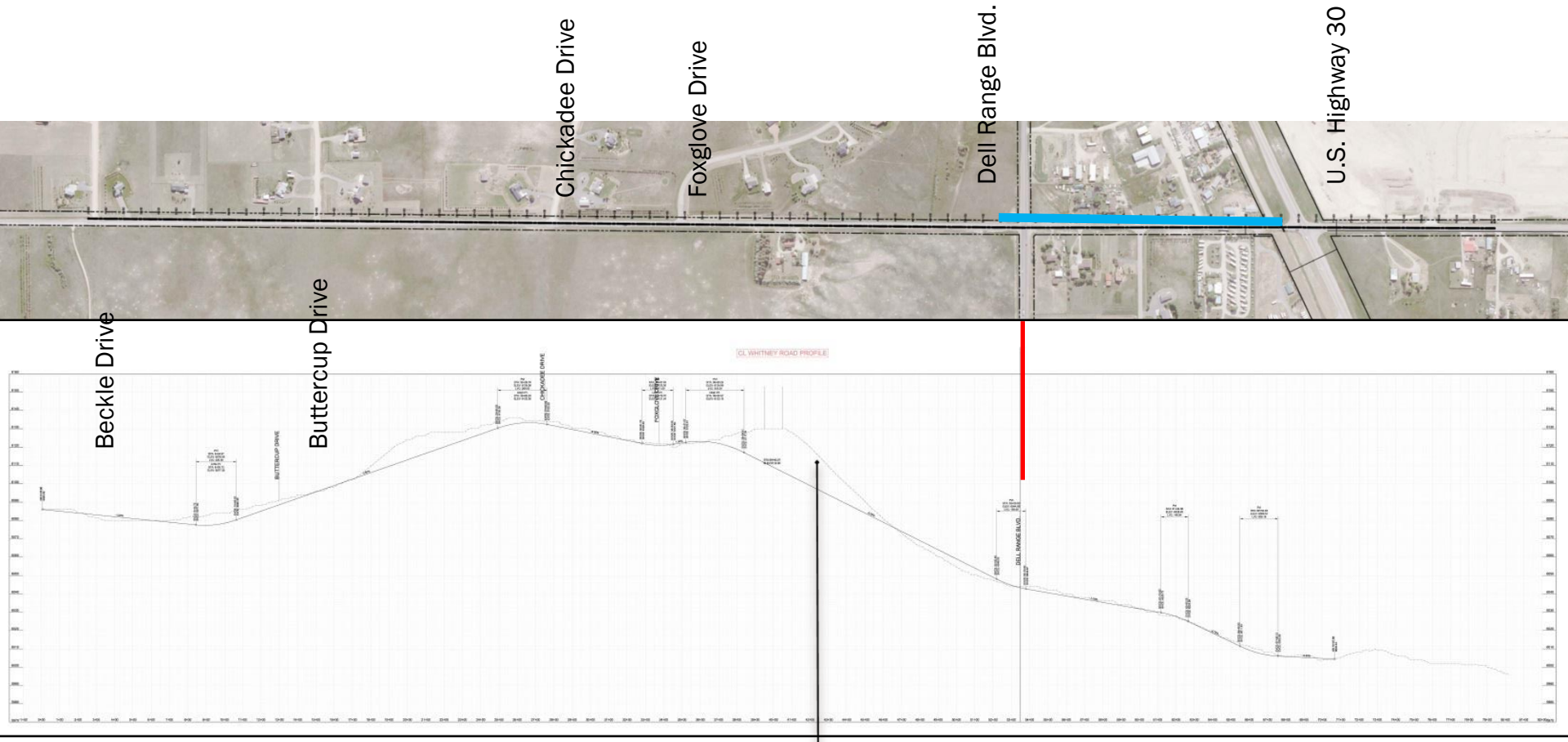


PROPOSED WET UTILIES –STORM

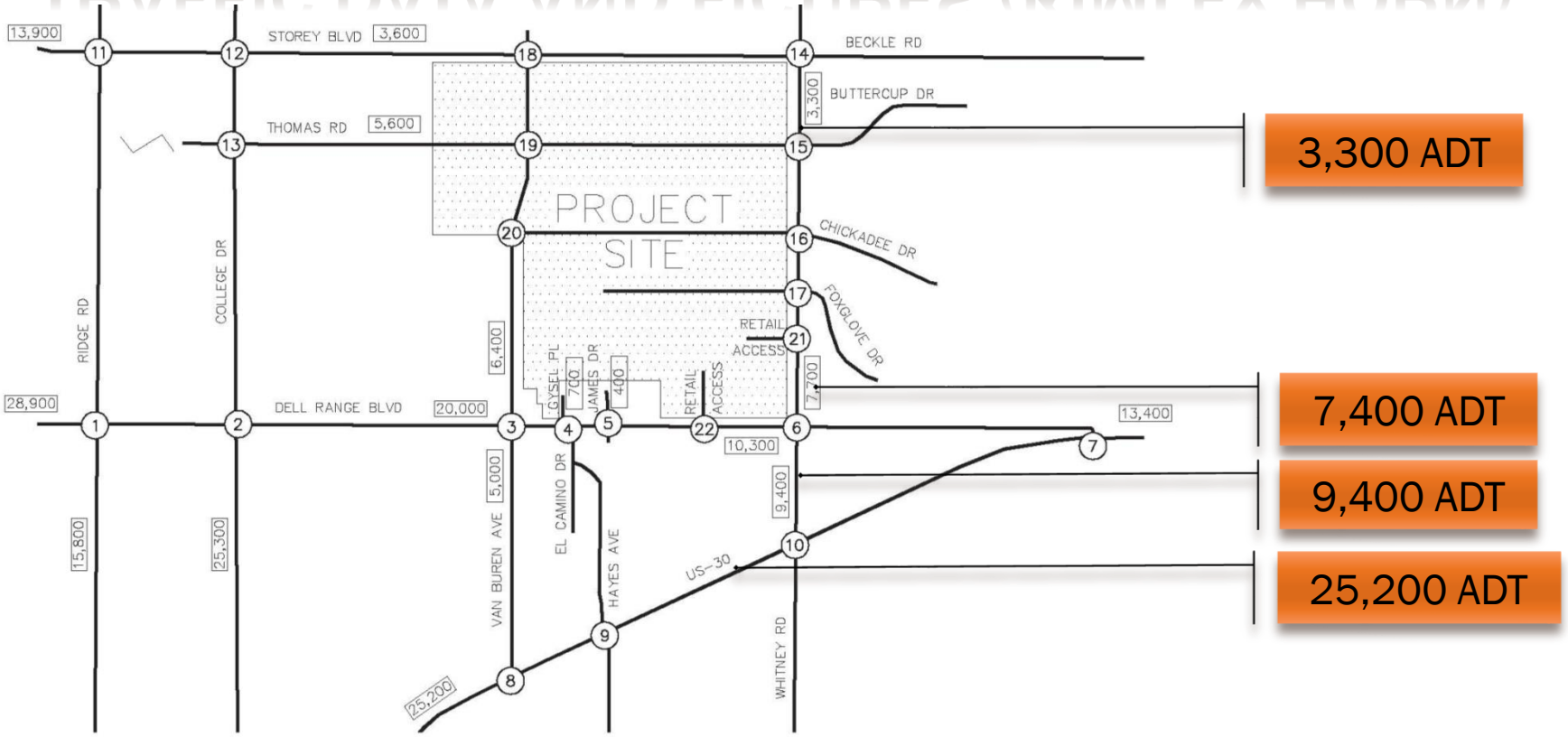
- Detention



LONGITUDINAL GRADE

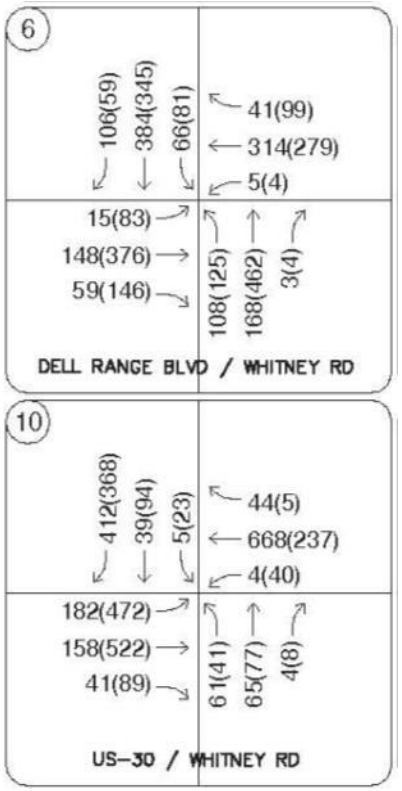


TRAFFIC DATA AND FIGURES (KIMLEY HORN)



WHITNEY RANCH
2040 BACKGROUND PLUS PROJECT TRAFFIC VOLUMES

TRAFFIC DATA AND FIGURES (KIMLEY HORN)



LEGEND

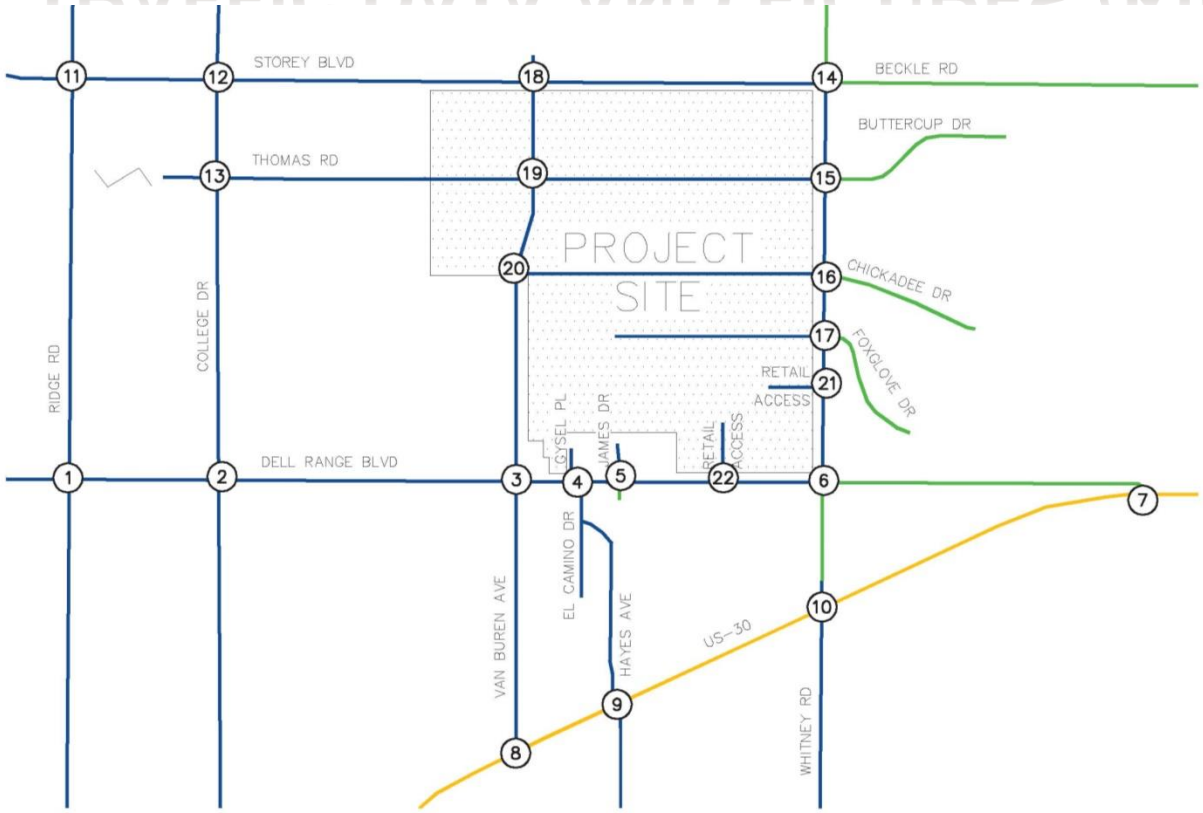
(X) Study Area Key Intersection

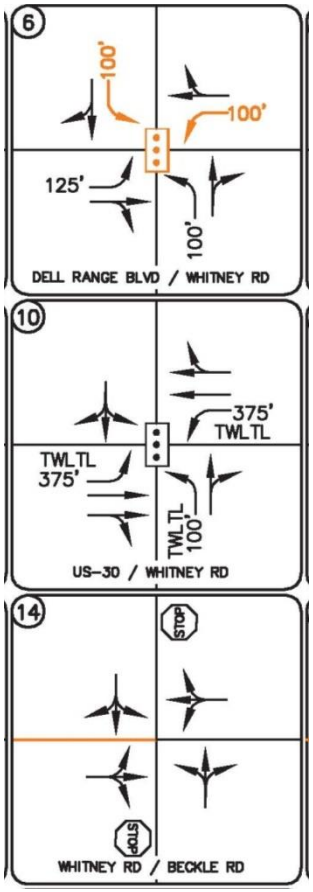
XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

WHITNEY RANCH
2040 BACKGROUND PLUS PROJECT TRAFFIC VOLUMES

TRAFFIC DATA AND FIGURES (KIMLEY HORN)





LEGEND

- STATE ROAD
- COUNTY ROAD
- CITY ROAD
- Signalized Intersection
- Study Area Key Intersection
- Stop Controlled Approach
- TWLTL Two-Way Left-Turn Lane
- 100' Turn Lane Length (feet)
- Improvements

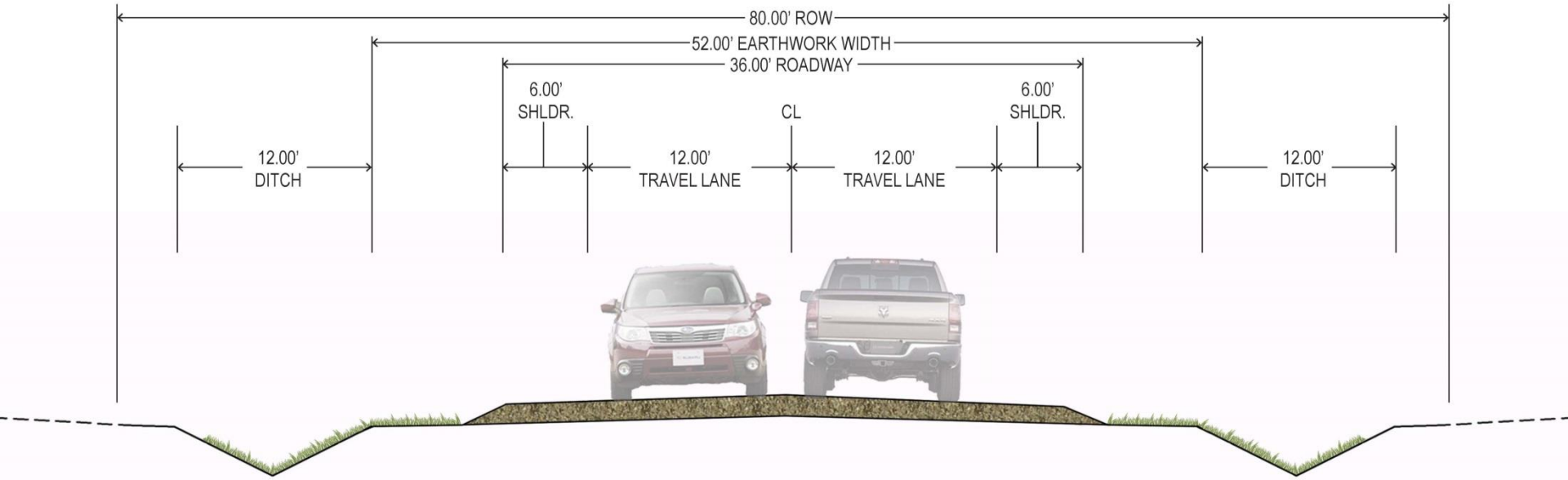
WHITNEY RANCH
2040 RECOMMENDED LANE CONFIGURATIONS AND CONTROL

ADDITIONAL NEEDS (STS)

- Lane Configuration(s)
- Queuing Analysis Recommendations
- Other?

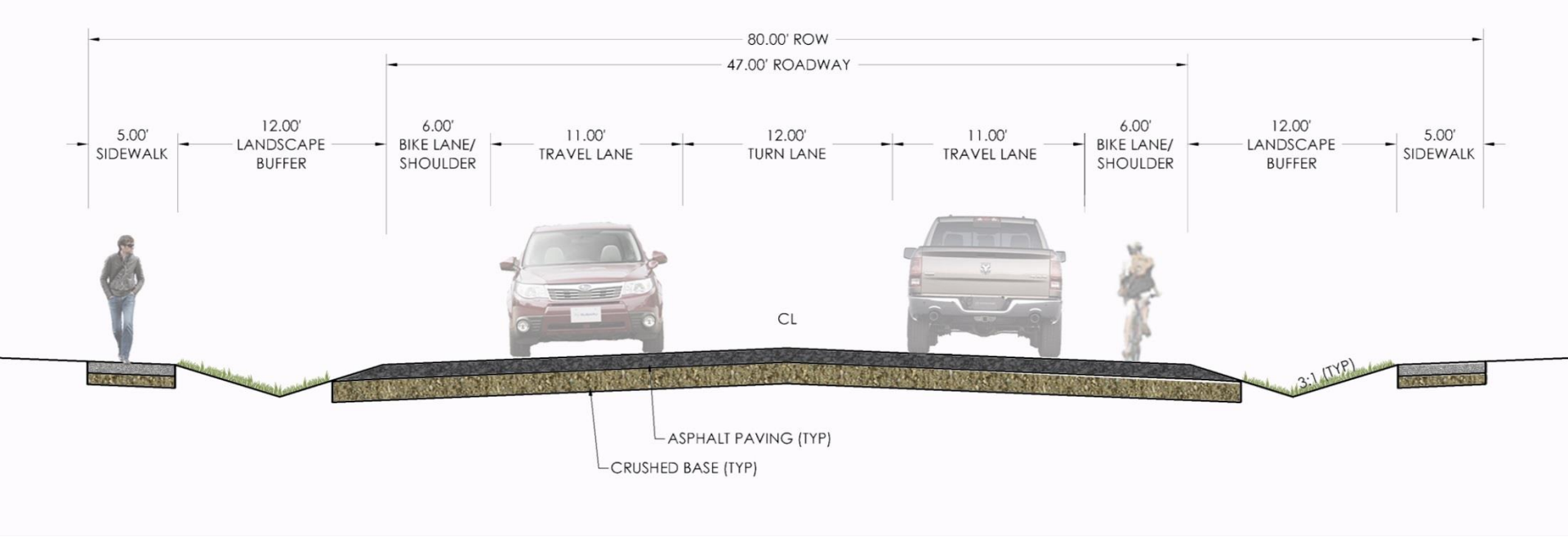
PRELIMINARY RECOMMENDED TYPICAL SECTIONS

- Beckel to Dell Range
  - Interim Rural 2 – Lane Roadway Typical Section



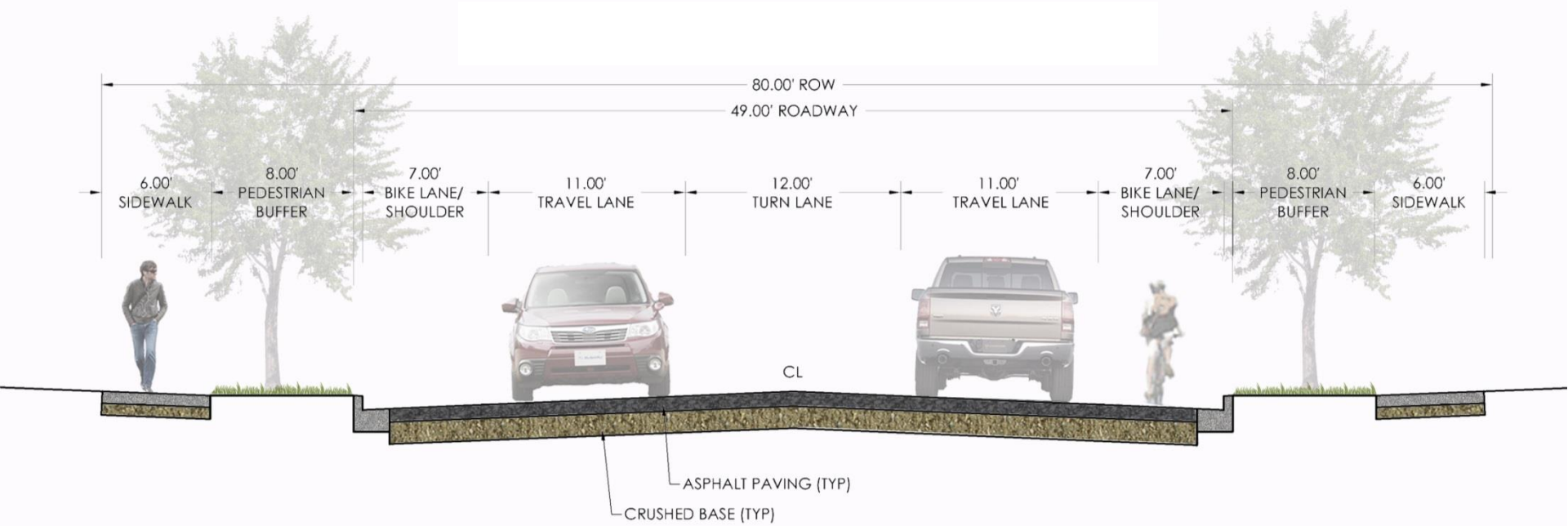
PRELIMINARY RECOMMENDED TYPICAL SECTIONS

- Beckel to Dell Range
  - Ultimate Rural 3 – Lane Roadway Typical Section



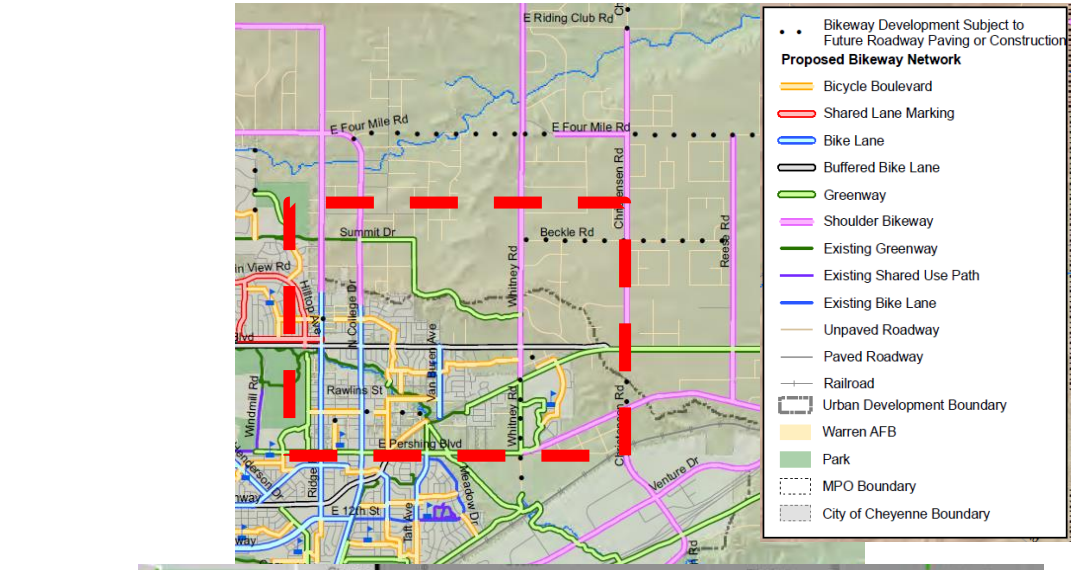
PRELIMINARY RECOMMENDED TYPICAL SECTIONS

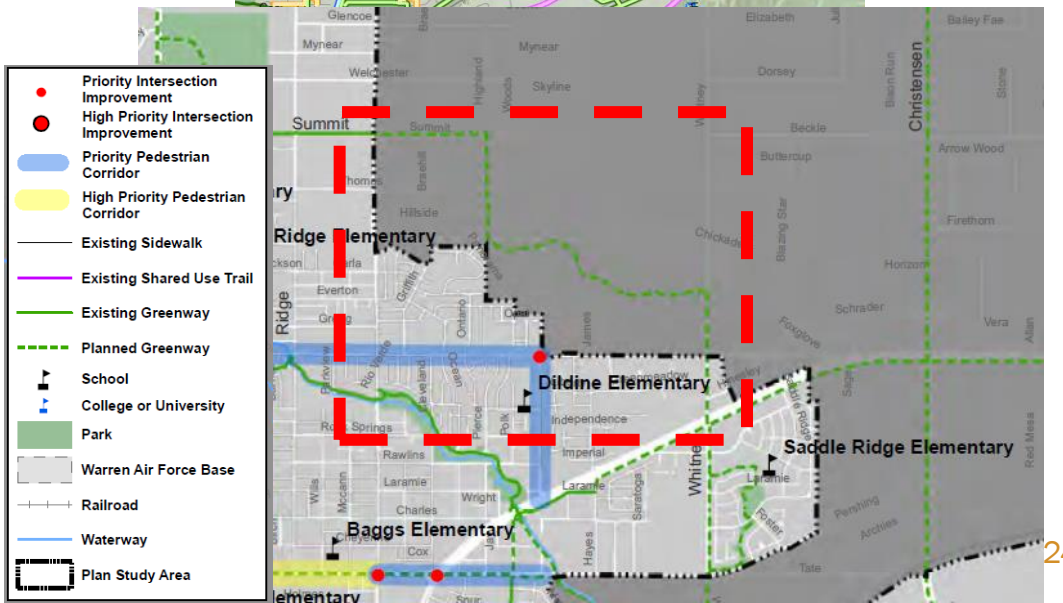
- Dell Range to U.S. 30
  - Urban 3 – Lane Roadway Typical Section



PEDESTRIAN AND BIKE OPTIONS

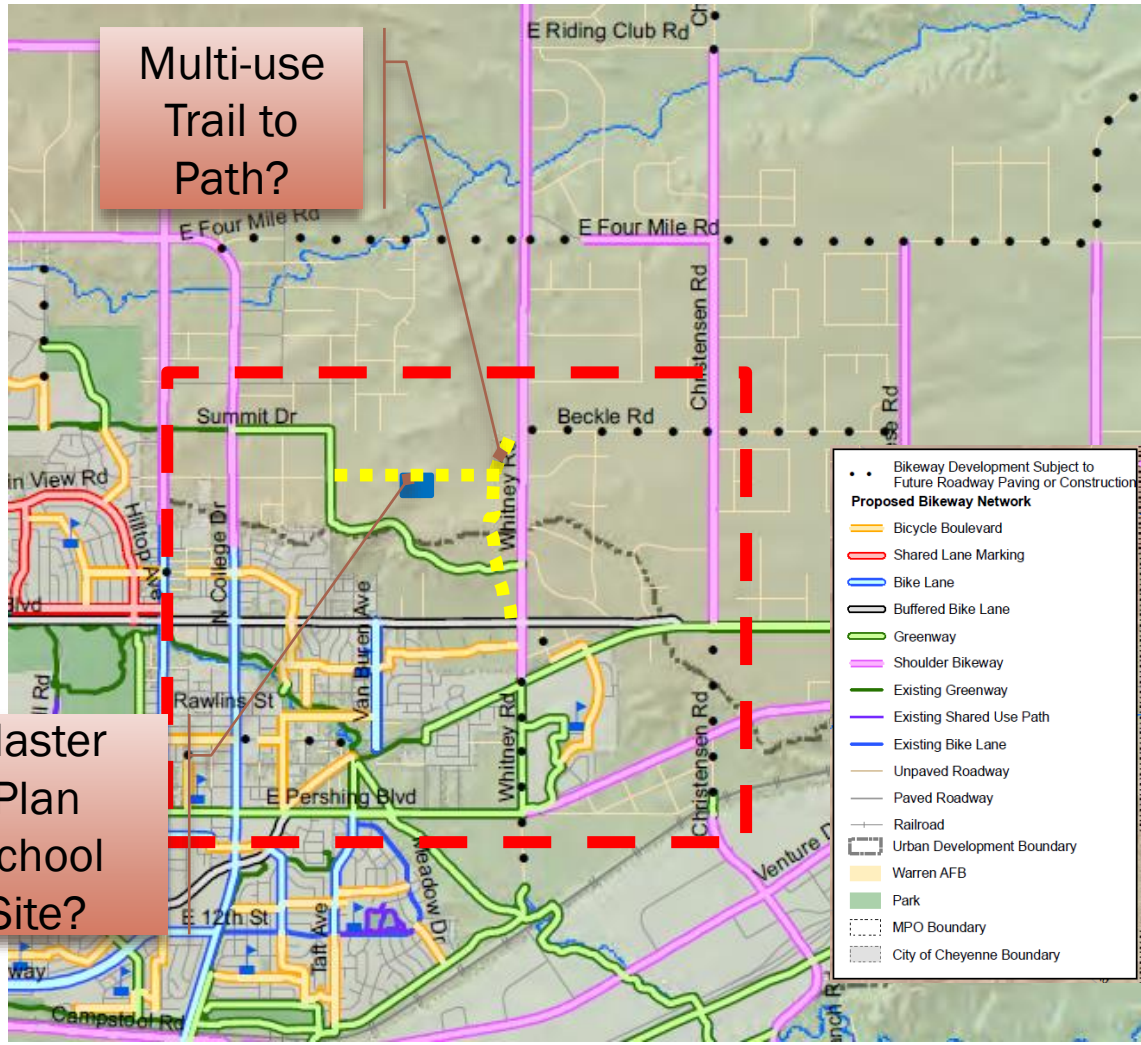
- Cheyenne On-street Bicycle Plan and Greenway Update, 2012
- Cheyenne Metropolitan Area Pedestrian Plan, 2010
- Other Options
  - On-street Bike/ Lane Shoulder
  - Trail or Additional Trail
  - Multi-use Path
  - Sidewalk



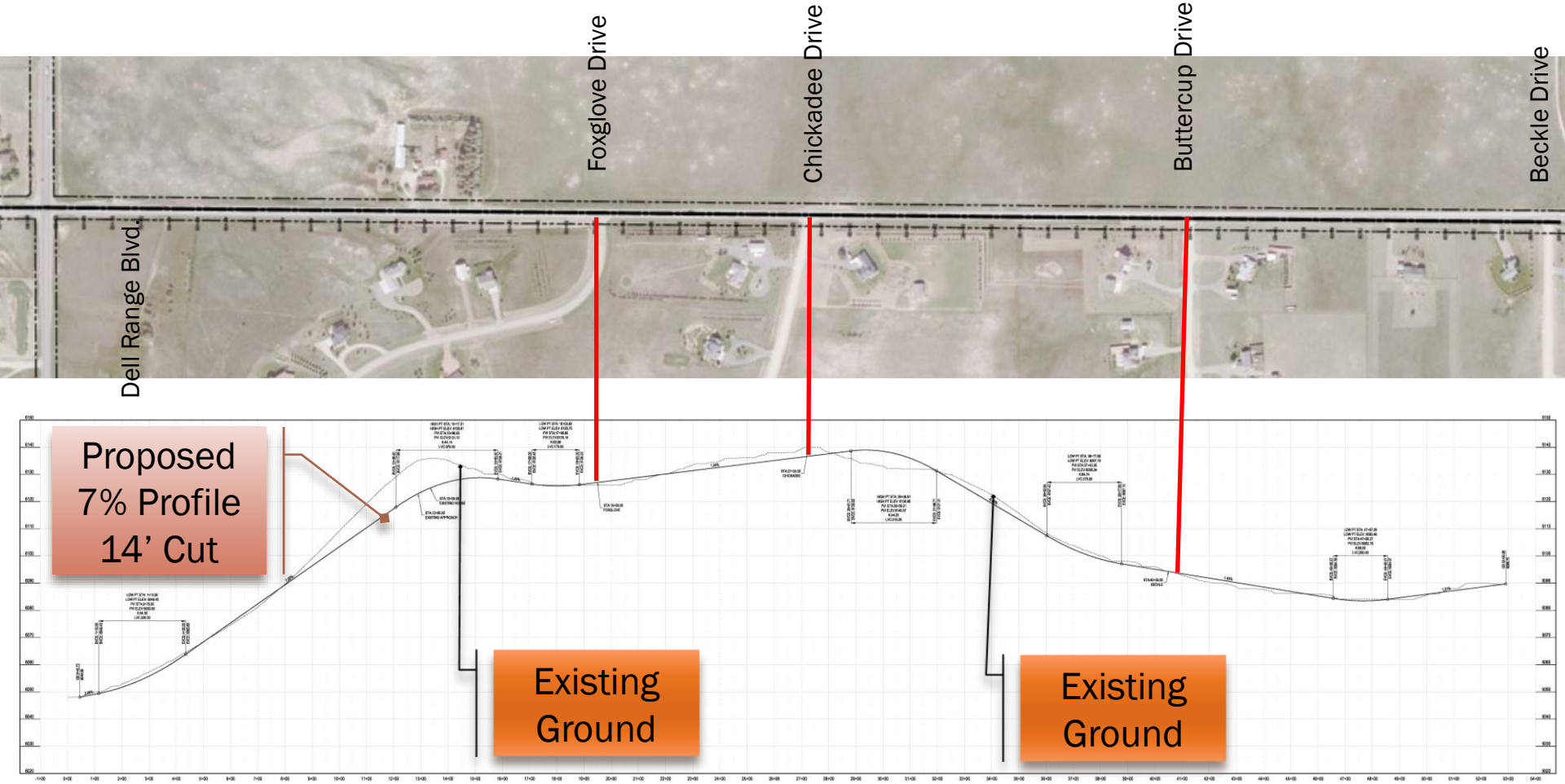


PEDESTRIAN AND BIKE OPTIONS

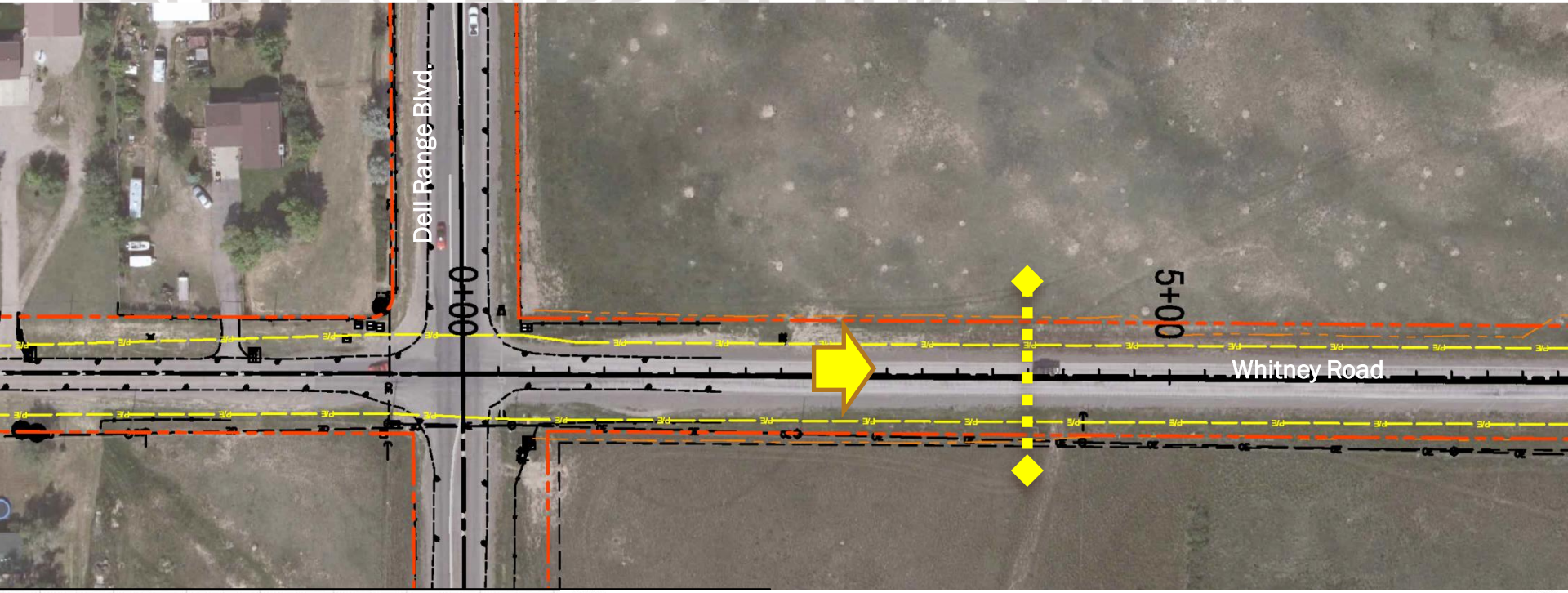
- Other Options
  - On-street Bike/ Lane Shoulder
  - Trail or Additional Trail
  - Multi-use Path
  - Sidewalk

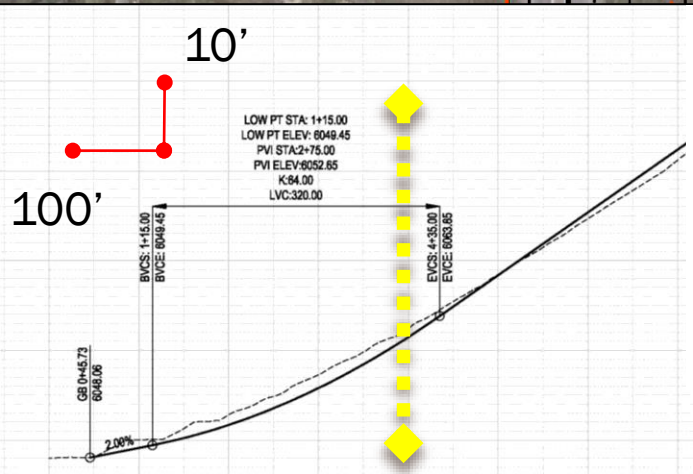


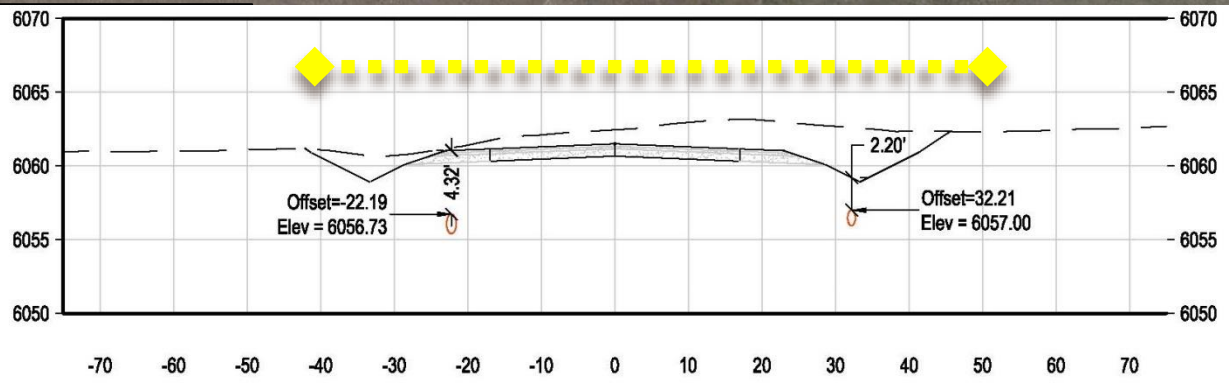
PROFILE REVIEW



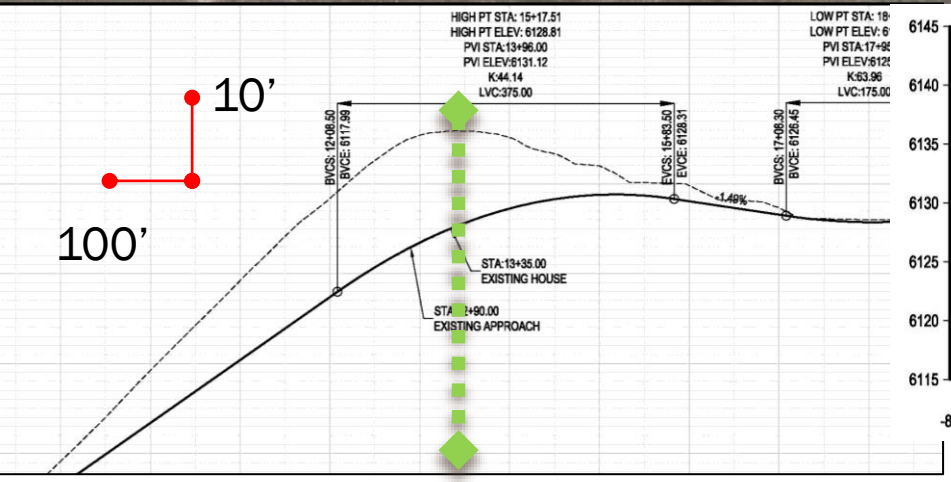
PROFILE/ CROSS SECTION REVIEW

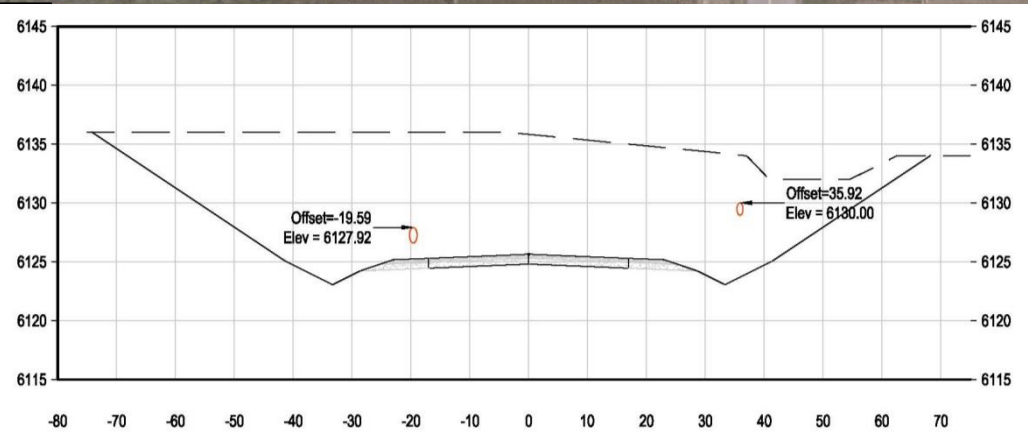




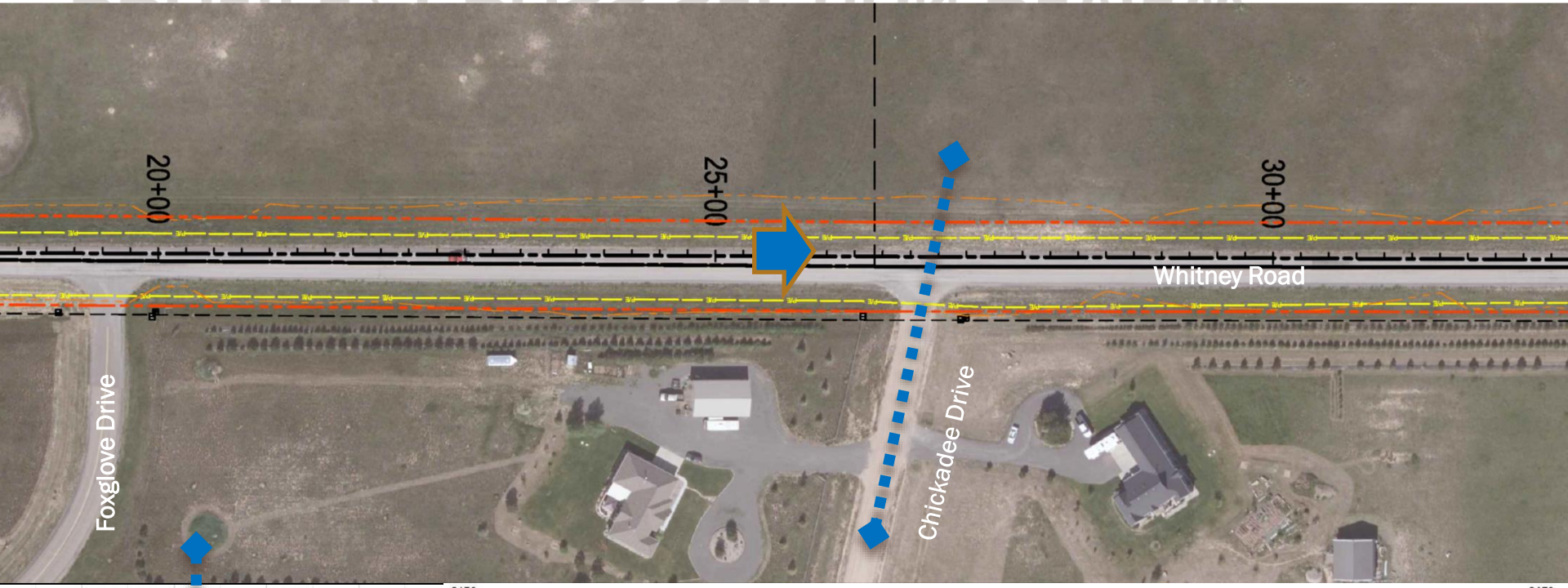


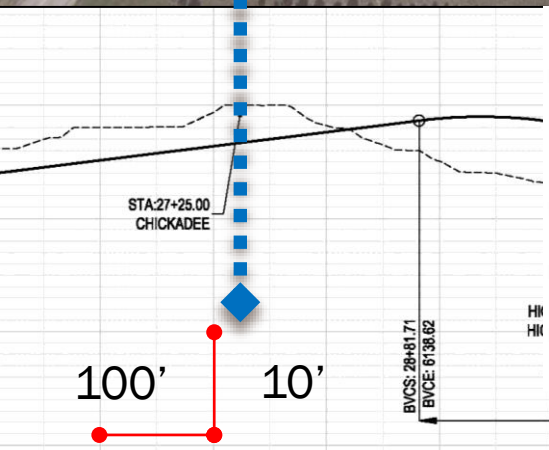
PROFILE/ CROSS SECTION REVIEW

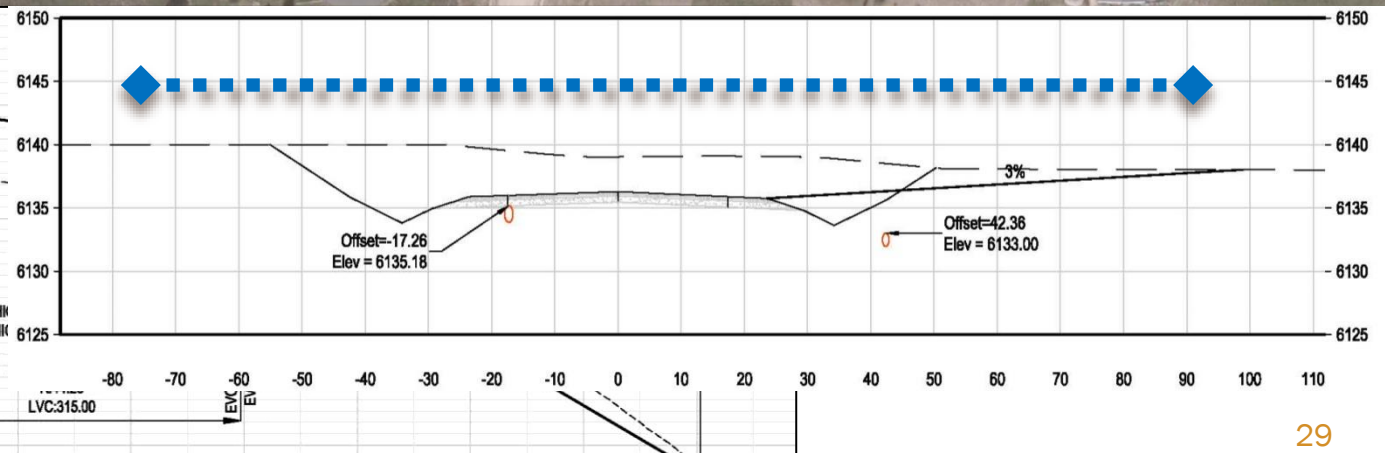




PROFILE/ CROSS SECTION REVIEW







ROADWAY/ INTERSECTION CONCEPTS

- Signal Warrants
  - Dell Range Boulevard
    - Warranted by Year 2040 (based on Kimley Horn Study)
  - US 30
    - Signalize by Year 2022 (Signal warrant analysis not included in Kimley Horn Study)

CRASH DATA

- Intersection Crash Data (January, 2014 to September, 2017)

Whitney Road / US 30	
Type	**Number**
Angle	5
Rear End	3
Fixed Object	3
Total	**11**
Rate	**0.88**

Whitney Road / Dell Range Boulevard	
Type	**Number**
Angle	5
Rear End	0
Fixed Object	0
Total	**5**
Rate	**0.50**

Whitney Road / Beckle Road	
Type	**Number**
Angle	0
Rear End	1
Fixed Object	0
Total	**1**
Rate	**0.33**

Crash rates are expressed in crashes per million entering vehicles.

Severity

Property Damage	9
Injury	2
Fatality	0
Total	**11**

Property Damage	3
Injury	1
Fatality	1
Total	**5**

Property Damage	1
Injury	0
Fatality	0
Total	**1**

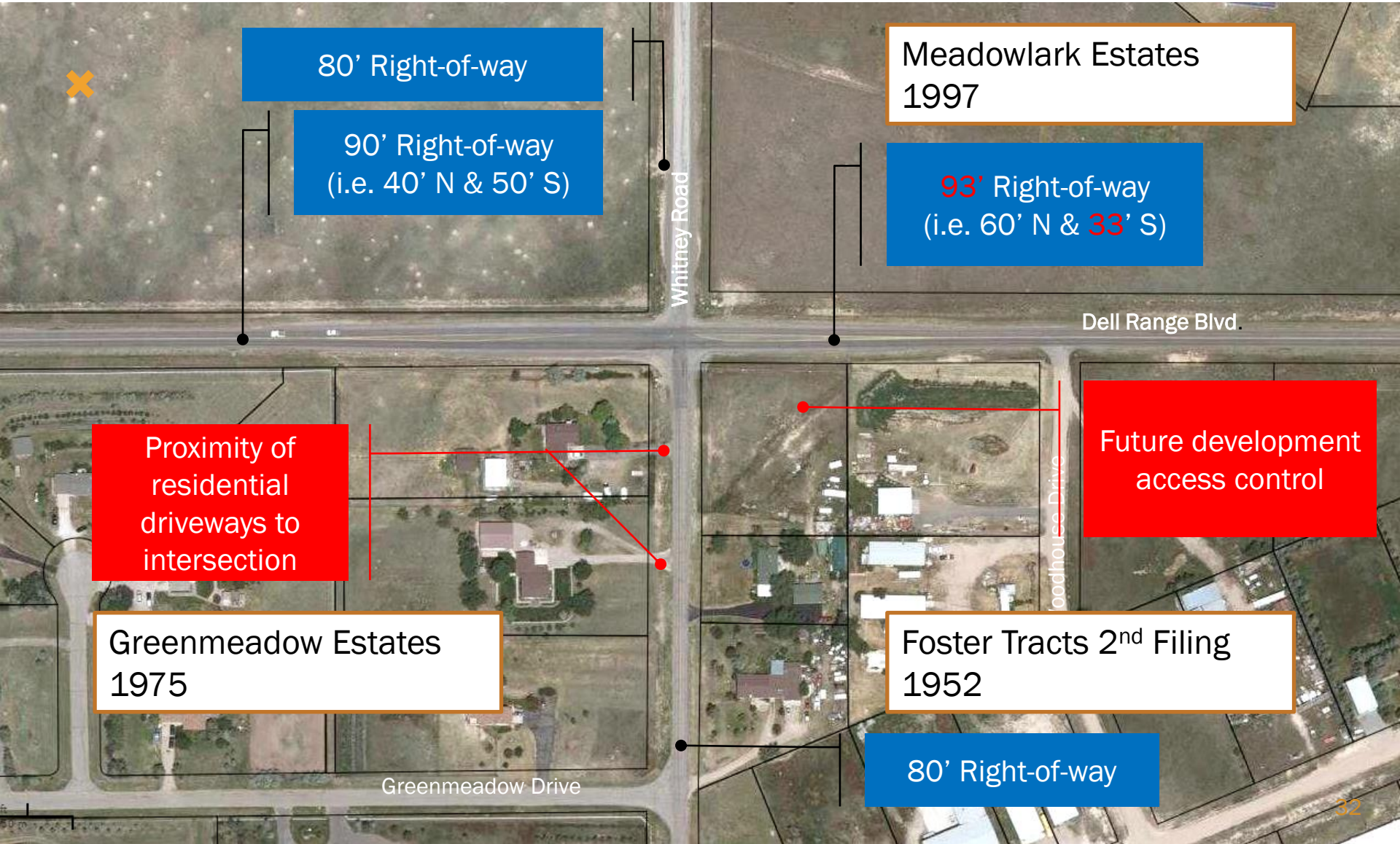
Cause

Failure to Yield ROW	5
Following too Closely	2
Speeding	1
Drove too Fast for Conditions	3
Total	11

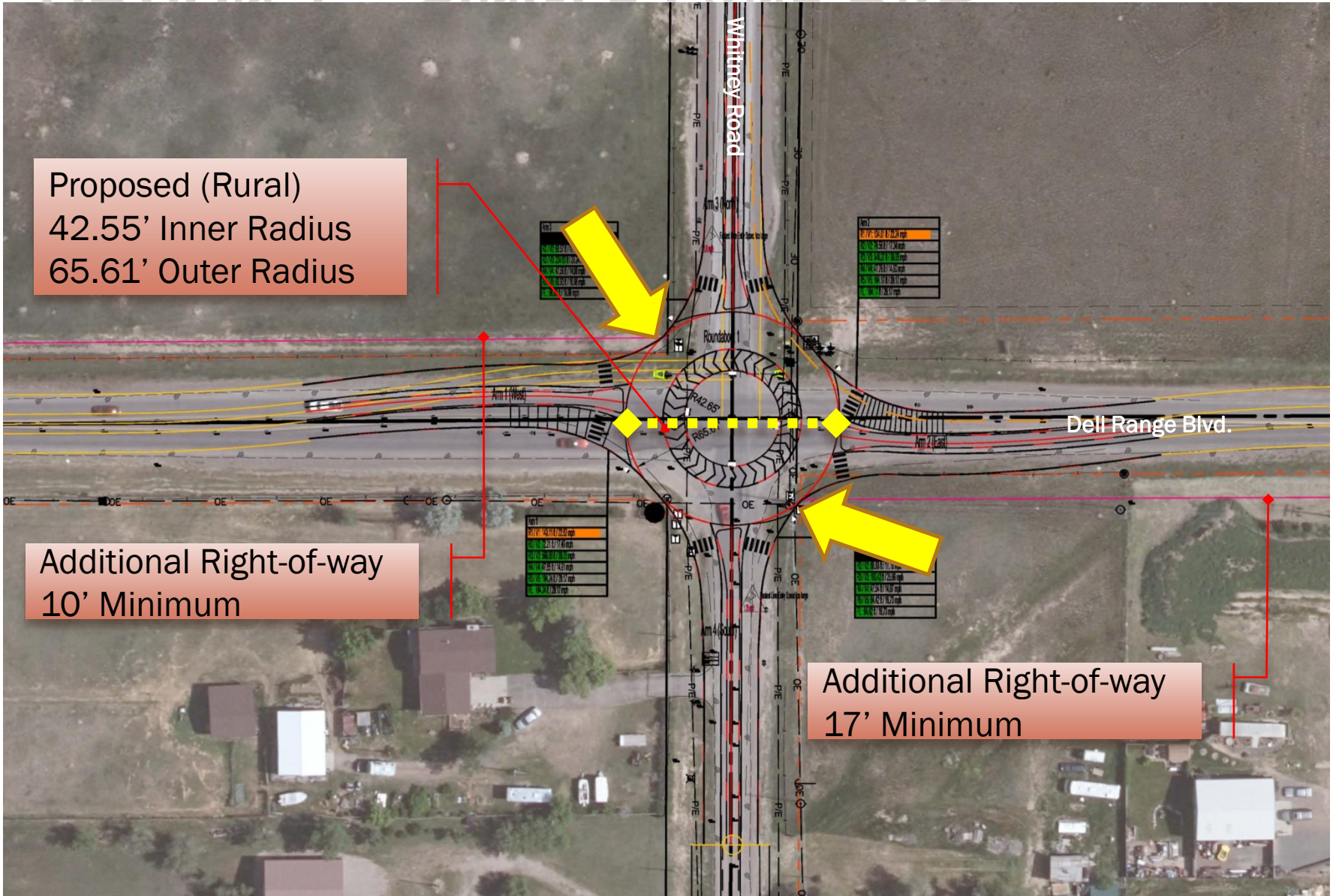
Failure to Yield ROW	5
Following too Closely	0
Speeding	0
Drove too Fast for Conditions	0
Total	5

Failure to Yield ROW	0
Following too Closely	1
Speeding	0
Drove too Fast for Conditions	0
Total	1

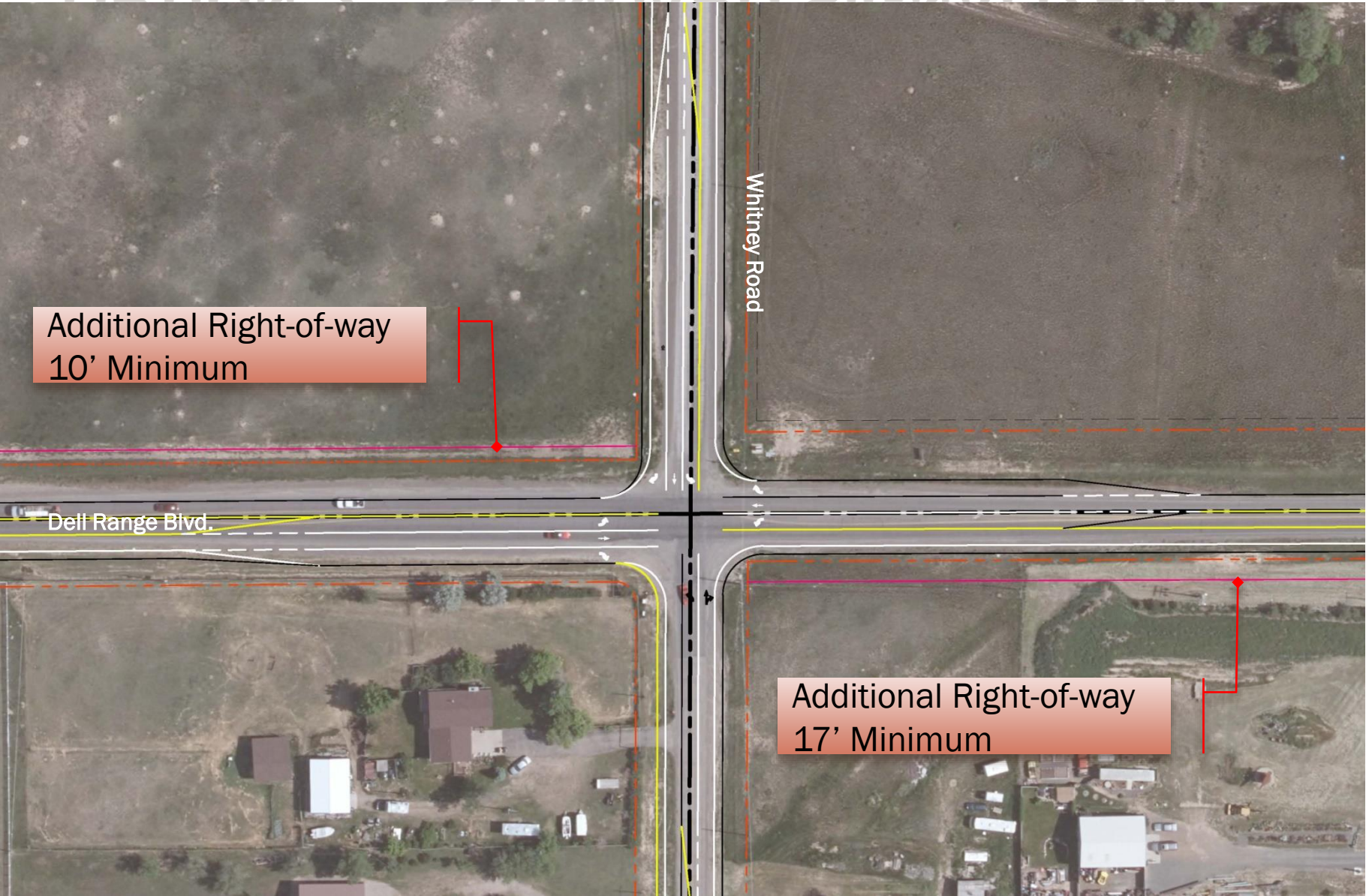
INTERSECTION WHITNEY AT DELL RANGE BLVD.



OPTION 1 – SINGLE LANE RAB



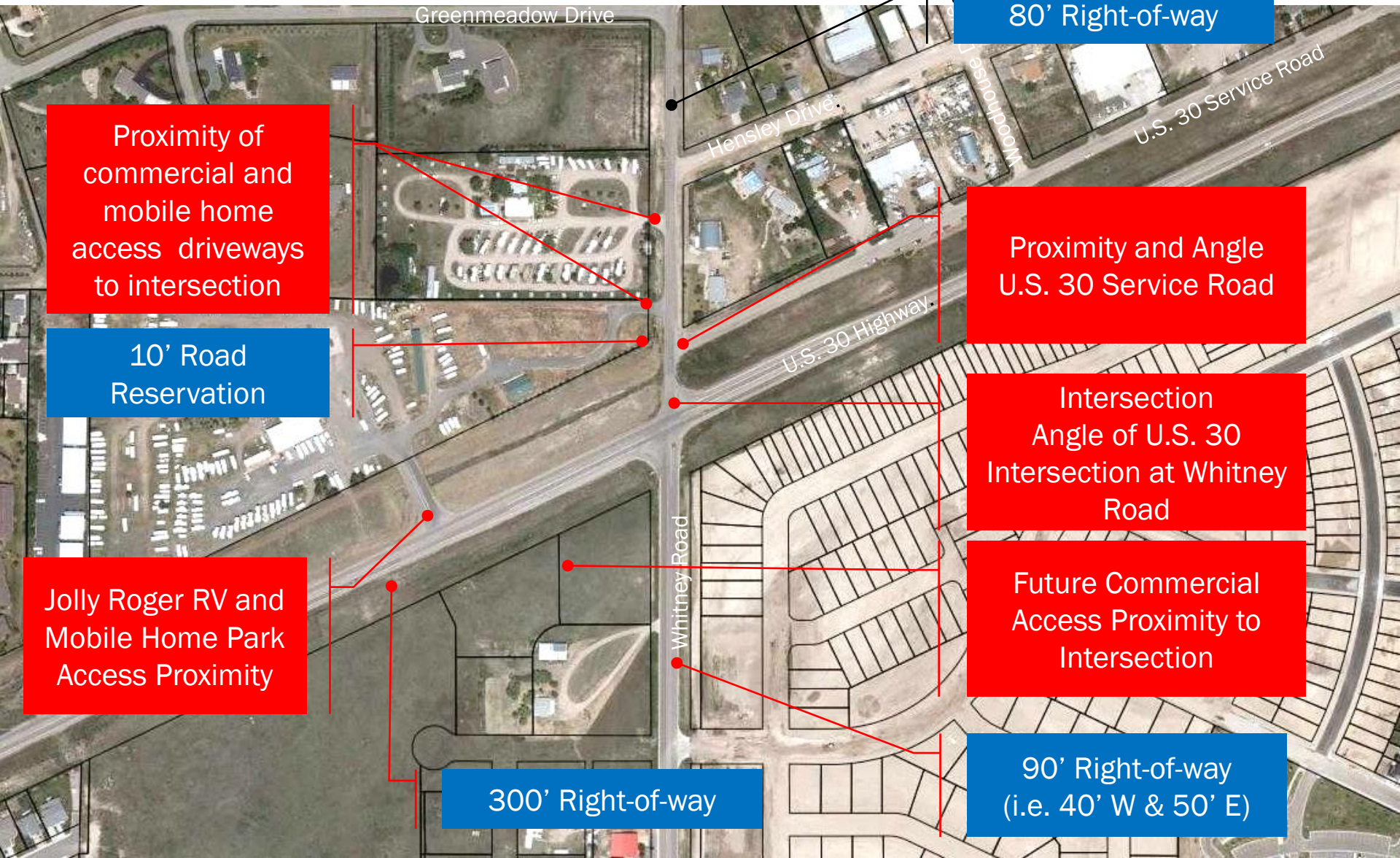
OPTION 2 – STANDARD SIGNALIZED



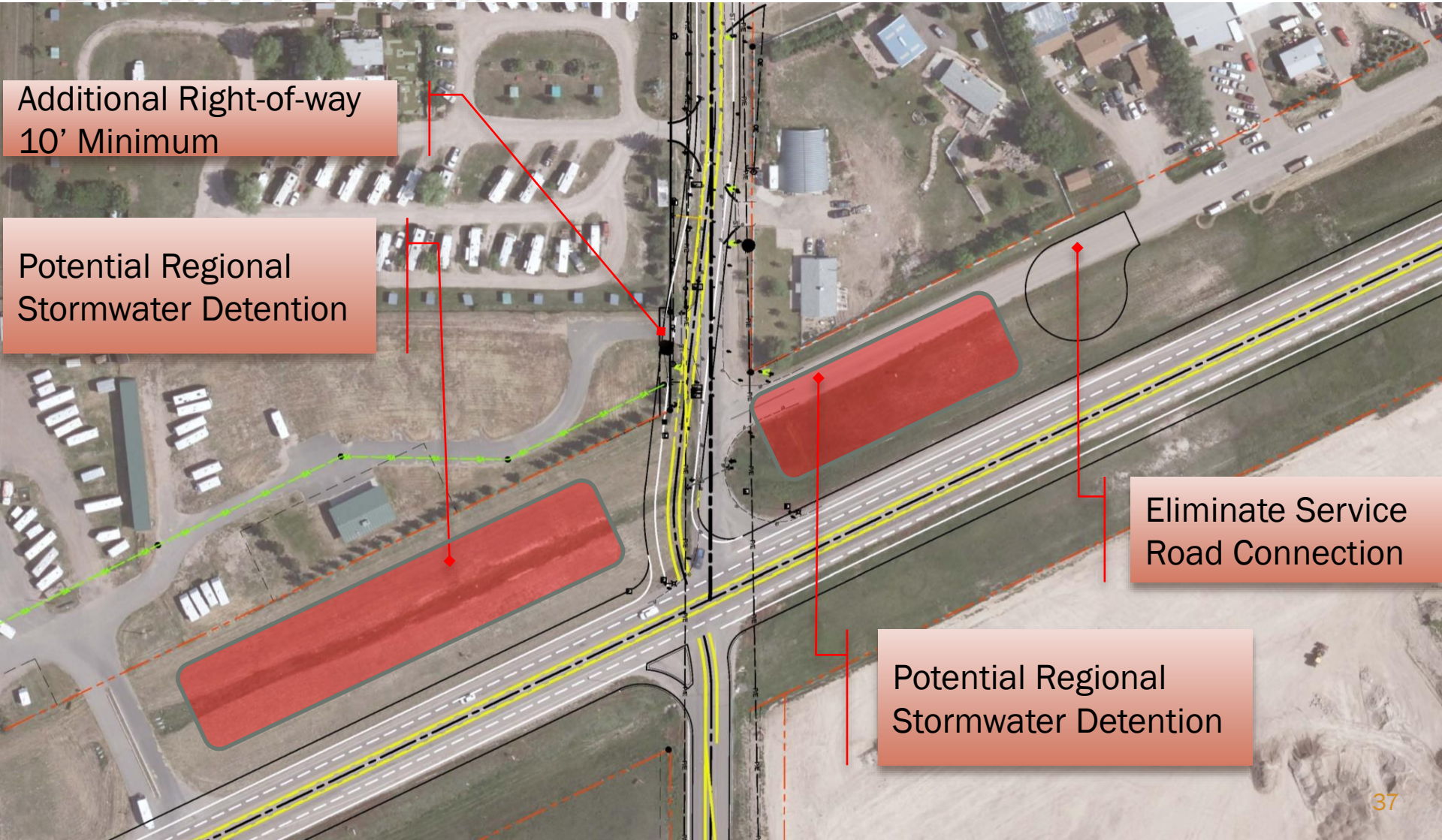
INTERIM OPTIONS - PHASING

- Transverse Rumble Strips – Northbound and Southbound
- Wide Transverse Pavement Markings
  - Thermoplastic Pavement Markings or conventional painting
- Flashing Beacon – Stop Control
- Intersection Down Lighting on Existing Power Poles or Independent Pole

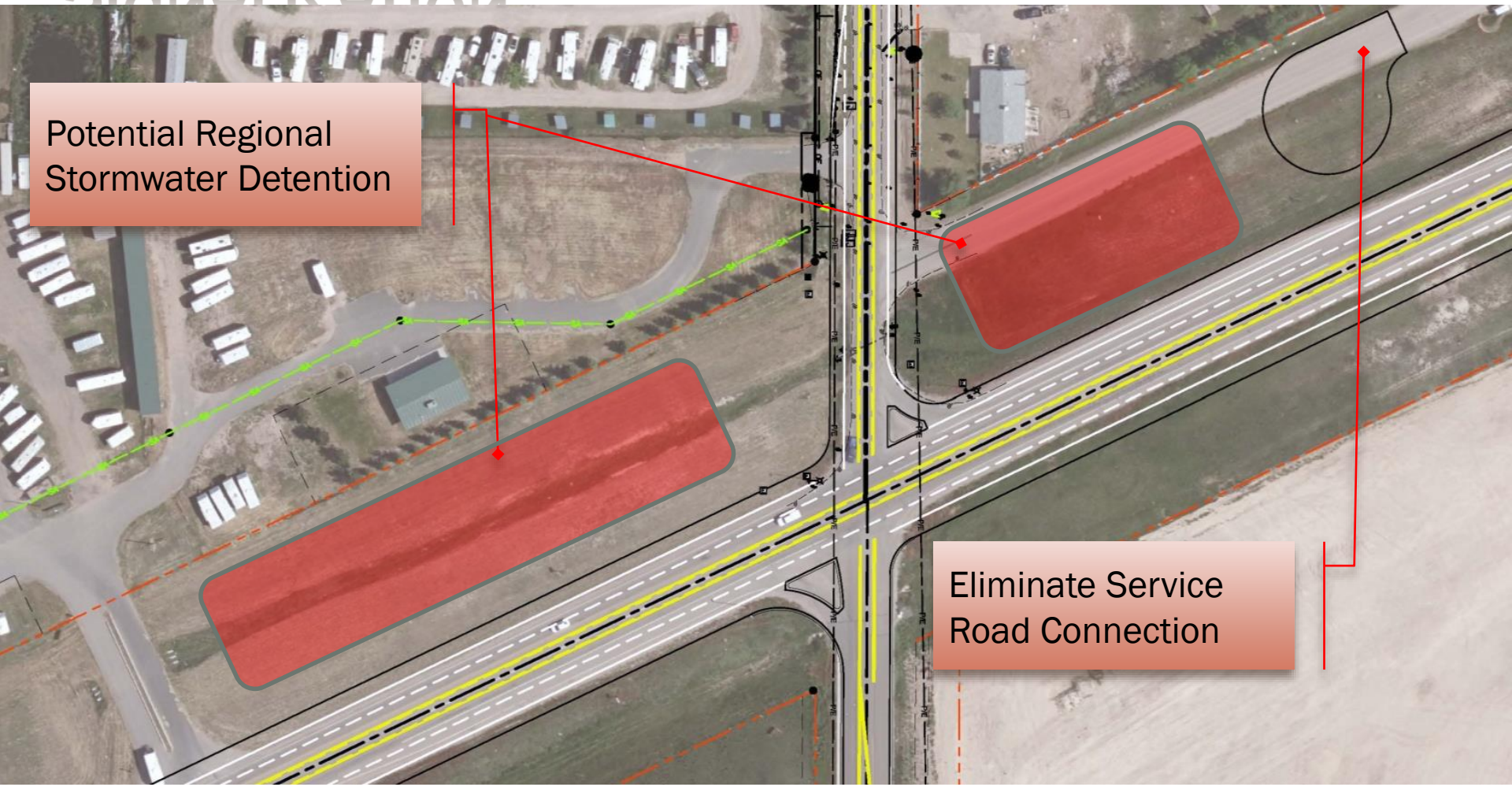
WHITNEY ROAD AT U.S. 30



OPTION 1 – REALIGN SKEWED INTERSECTION SIGNALIZATION



OPTION 2 – ULTIMATE WIDENING SIGNALIZATION



INTERIM OPTIONS - PHASING

- Signalization w/ Future Arm Lengths and Locations
- Channelized Islands
- Eliminate Service Road Connection
- Regional Stormwater Detention Ponds

STEERING COMMITTE MEETING NO. 1
WHITNEY ROAD CORRIDOR STUDY

May 9, 2017@ 2:00 P.M.

• LIST OF ATTENDEES •

Please Initial To Record Attendance	NAME	COMPANY	EMAIL	CELL/ PHONE
	Bruce Hattig	BOPU	bhattig@cheyennebopu.org	(307)637-6416
	Cassie Pickett	AVI	cpeterman@avipc.com	(307)637-6017
	Daryl Johnson	AVI	djohnson@avipc.com	(307)631-7891 (307)637-6017
	Jef McMann	Black Hills Corp	Jef.Mcmann@blackhillscorp.com	(307)778-2144
	Jeffery Mellor	WYDOT	jeffery.mellor@wyo.gov	(307)777-4164
	Lloyd Sisson	High West Energy	lsisson@highwestenergy.com	(307)245-4302
	Nancy Olson	MPO	nolson@cheyennempo.org	(307)638-4366
	Nathan Beauheim	City of Cheyenne	nbeauheim@cheyennecity.org	(307)638-4315
	Randy Griesbach	WYDOT	randy.griesbach@wyo.gov	(307)745-2100
	Rob Geringer	Laramie County	rgeringer@laramiecounty.com	(307)633-4618
	Sreyoshi Chakraborty	MPO	schakraborty@cheyennempo.org	(307)638-4384
	Susana Montana	City of Cheyenne	smontana@cheyennecity.com	(307)637-6528
	Timothy Morton	WYDOT	timothy.morton@wyo.gov	
	Tom Cobb	AVI	cobb@avipc.com	(970)214-6542 (307)637-6017
	Tom Mason	MPO	tmason@cheyennempo.org	(307)637-6299
VIAPX	Joe Henderson	STS	joe@sustaibabletrafficsolutions.com	(303)589.6875

DRAFT MEETING MINUTES

Subject:	Steering Committee Meeting #1		
Client:	Cheyenne MPO		
Project:	Whitney Road Corridor Study	Project No:	2-3987.17
Meeting Date:	5/09/2017 @ 2:00 PM – 3:30PM	Meeting Location:	AVI: 1103 Old Town Ln Suite 101 Cheyenne, WY 82009

Minutes compiled by: C. Pickett, EIT and T. Cobb, PE, AVI, P.C. 5/10/2017.

Minutes are in plain type. **Action items are in bold type.**

ATTENDEES: See attached Sign In Sheet attached.

TOPICS FOR DISCUSSION:

I. INTRODUCTIONS

II. OVERVIEW:

- Steering Committee Meeting #1 will be the first of three Steering Committee Meeting to discuss the Whitney Road 10% Corridor Plan.
- The purpose of the meeting was to discuss the preliminary aspects of the Whitney Road 10% Corridor Plan. These aspects include existing conditions, utilities, public involvement, and initial design concepts.
- Reference the Whitney Road 10% Corridor Plan Steering Committee #1 PowerPoint for meeting presentation.

III. MEETING COMMENTS

- BOPU:
  - BOPU noted that it might be beneficial to install sleeves under Dell Range in order to ease construction for future waterlines.
- WYDOT:
  - A presentation to Ralph Tarango, WYDOT Maintenance Foreman regarding detention facilities along USHWY 30 would begin the process for pursuing possible approval.
  - Randy indicated the agreement that a cul-de-sac may be an acceptable solution to terminating the service road along HWY 230 connecting to Whitney Road.
  - WYDOT plans to leave the four (4) lanes where existing and expanding the three (3) lanes of USHWY 30 to five (5) lanes. The alignment is planned to stay centered, not shifted north. This is only a preliminary plan.
  - WYDOT has volumes from planning as follows, an increase from Pershing to Van Buren of 92.5%, Van Buren to Dell Range an increase volume of 106%, Dell Range

to Westedt Road an increase of 37%, and Westedt Road to Archer an increase of 2.5%. These increases are represented projected twenty (20) years (2036).

- MPO:
    - **The MPO will be review projected volumes in the Plan Cheyenne and Christensen Road Corridor Plan to compare with WYDOT data**.
    - MPO will be meeting with Tom and Cassie to discuss a plan for Public Involvement.
- Suncor Energy
    - On May 10th, 2017 a meeting is planned to be held with Suncor Energy to discuss options for design with respect to the horizontal and vertical location of the Suncor Pipeline.
- High West Energy:
    - **Lloyd will send a map indicating High West underground and overhead utilities to assist in the design**.

IV. ACTION ITEMS

- AVI
    - **Setup Meeting with Ralph Tarango, WYDOT maintenance to begin conversation about WYDOT right-of-way use for storm water detention facilities.**
    - **Meeting Minutes and presentation to steering committee.**
    - **Schedule follow-up meeting with MPO regarding social media and block meetings.**
    - **Complete meeting minutes for this meeting and forward with presentation to MPO and Steering Committee for review and record.**

WHITNEY ROAD 10% CORRIDOR PLAN

Steering Committee Meeting #1

May 9, 2017

STS

WYOMING TRANSPORTATION DEPARTMENT

CITY OF CHEYENNE

CHEYENNE MPO

THE GREAT SEAL OF LARAMIE COUNTY 1867 WYOMING

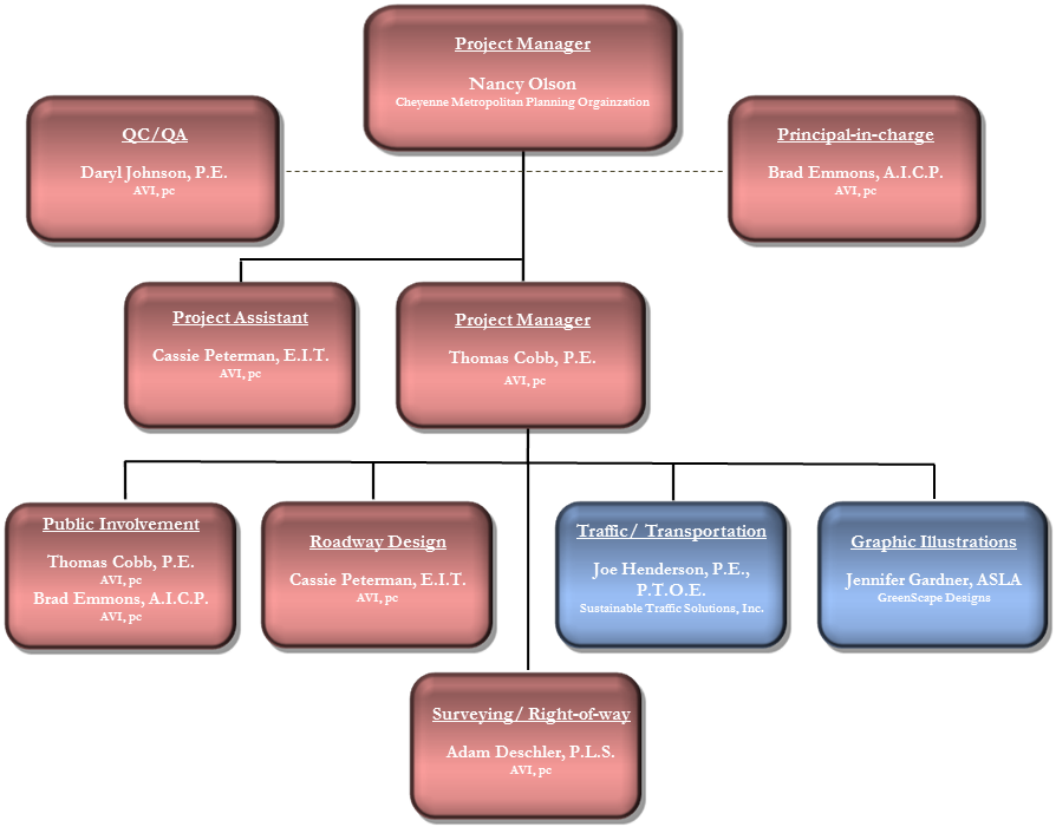
ENGINEERING PLANNING SURVEYING PC

AGENDA

- Introductions
- Purpose and goals Steering Committee
- What to expect?
- Overall project approach
- Public participation process
- Discussion
  - Project constraints and opportunities
  - Goals
  - Initial concepts
- Other
  - Block Meeting Concept

INTRODUCTIONS

- Tom Cobb, PE
  - Project Manager/Public Involvement
- Cassie Pickett, EIT
  - Project Assistant/Road Design/Social Media
- Joe Henderson, PE
  - Traffic Engineer

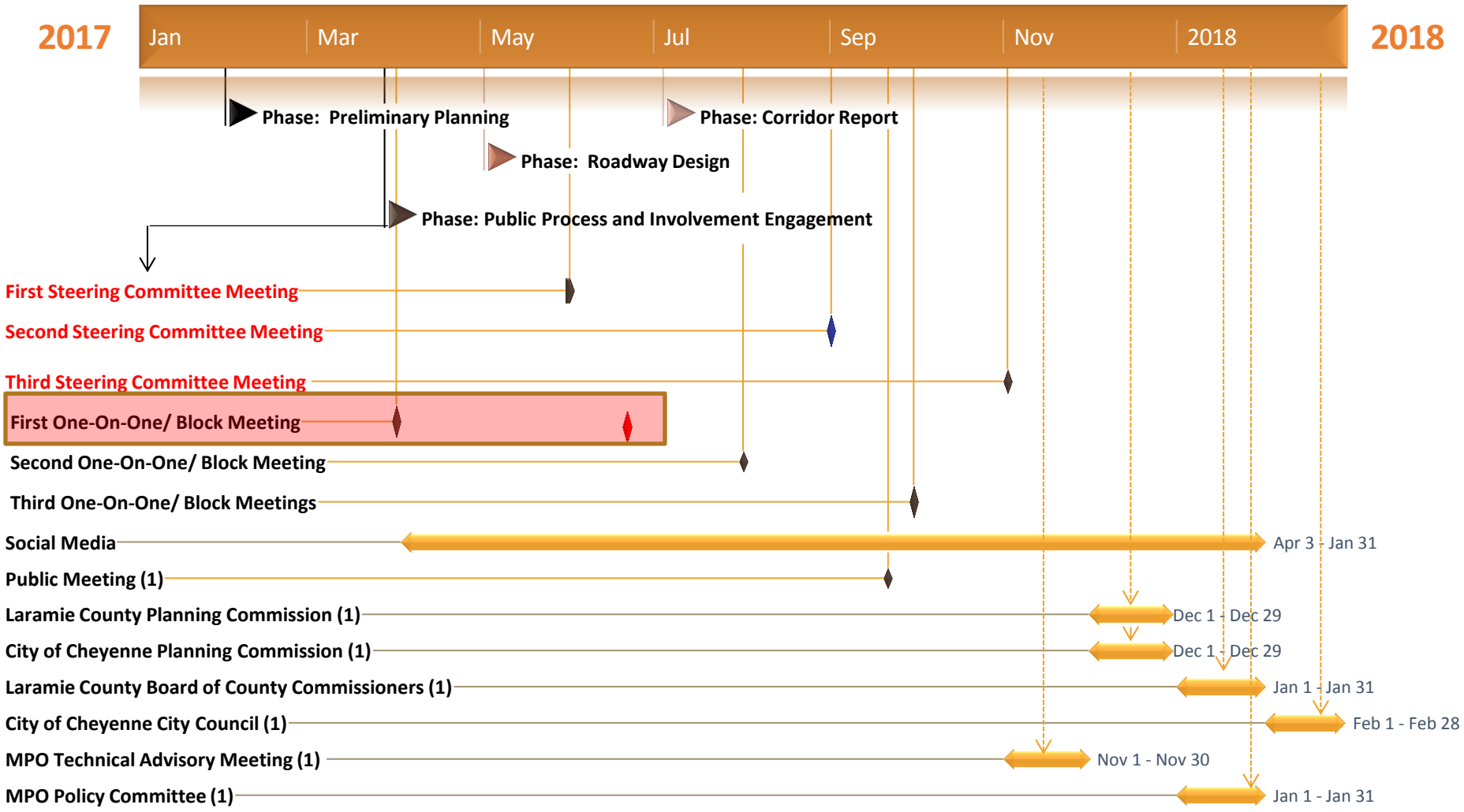


PURPOSE & GOALS

- Purpose of Steering Committee
  - Assists in steering the project from inception to completion.
  - Provides advice, input, and guidance during the development of the plan.
  - Provides Recommendations.

- Goals of Today's Meeting
  - Formal kick-off the steering committee and project process.
  - Update on surrounding development status.
  - Review known project constraints.
  - Input from committee on purpose and goals of the project from the Steering Committee.
  - Input on initial conceptual typical section and U.S. Concept.
  - Input on proposed Block Meeting Agenda.

WHAT TO EXPECT



WHAT TO EXPECT?

PROJECT MILESTONES	MILESTONE DATES
Notice to Proceed	**March 1, 2017**
Initial Kickoff Meeting MPO	**March 22, 2017 @2:00**
Traffic Counts	**April 4, 2017**
Steering Committee Meetings	**May 9, 2017:** **August/ September, October, 2017**
Neighborhood Block Meeting #1, #2, and #3	June, July, and August, 2017
Open House/Public Meeting	September, 2017
Draft Plan	October, 2017
Submit to MPO for Final Adoption	November, 2017
Presentation to the Governing Body	January/ February, 2018

WHAT TO EXPECT – OVERALL APPROACH

Planning

- **Existing Conditions**
  - Topography
  - Utilities
  - Drainage
  - Environmental
  - Historical
- **Accurate Traffic Data Collection**
- **Accurate Traffic Projections**
- **Regulatory Design Policies**
  - UDC
  - Laramie County Land Use Regulations

Public Involvement

- **Steering Committee**
- **Jurisdictional Meetings**
- **MPO Committees**
- **Public Open House**
- **One-on-One Block Meetings**
- **Social Media**
  - Blog
  - Facebook, Twitter
  - Email Notifications

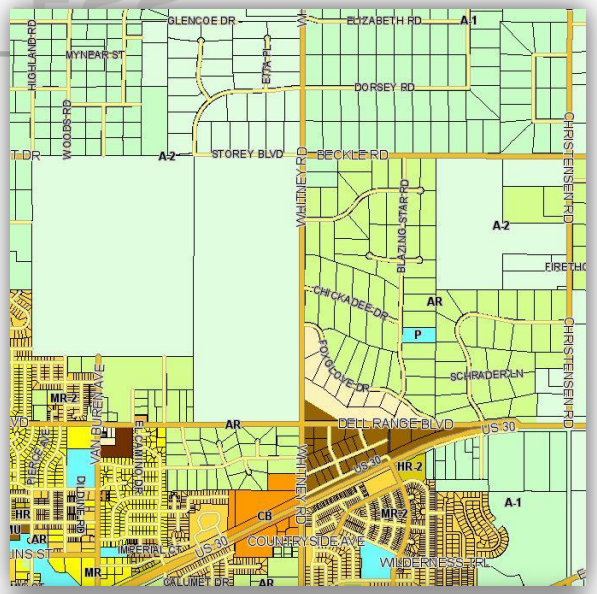
Design

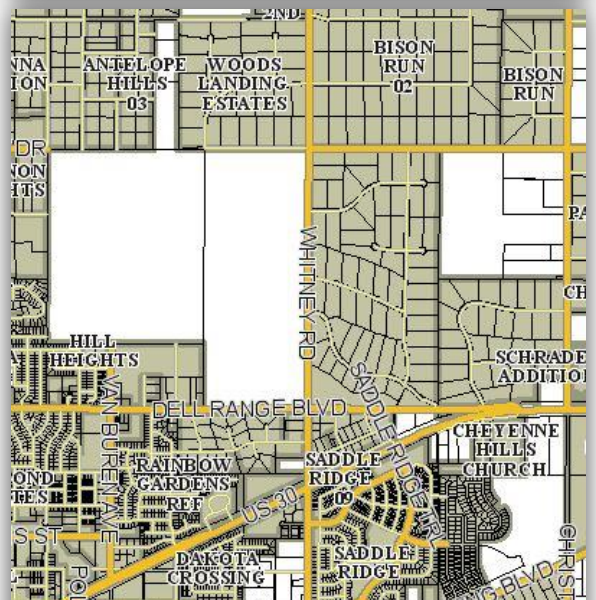
- **Alternative Development**
- **Alternative Analysis**

PUBLIC PARTICIPATION PROCESS

ONE-ON-ONE/ BLOCK MEETING(S)	PUBLIC MEETING	PROCESS MEETINGS	SOCIAL MEDIA

• BISON RUN
• WHITNEY GYSEL DEVELOPERS
• WOODS LANDING ESTATES
• MEDOWLARK ESTATES
• CHEYENNE HILLS CHURCH
• FOSTER TRACTS
• GREENMEADOW ESTATES
• JOLLY ROGER
• U.S. 30 BUSINESS PLAZA
• SADDLE RIDGE
	• PRESENT CONCEPTS
	• FOCUS ON LISTENING
	• WHAT WE HEARD FROM ONE-ON-ONE MEETINGS
		• STEERING COMMITTTEE (3)
		• JURISDICATIONAL MEETINGS (4)
		  • Laramie County Planning Commission
		  • City of Cheyenne Planning Commission
		  • Laramie County Board of County Commissioners
		  • City of Cheyenne City Council
		• MPO COMMITTEES
		  • TAC (2)
		  • Policy
			• BLOG
			• MPO FACEBOOK, TWITTER
			• EMAIL NOTIFICATIONS





CONSTRAINTS AND OPPORTUNITIES

- Utilities
  - Blackhills Energy
  - High West Energy
  - Suncor Energy
  - Plains All American Pipeline System, LLC
  - Qwest
  - BOPU

CONSTRAINTS AND OPPORTUNITIES

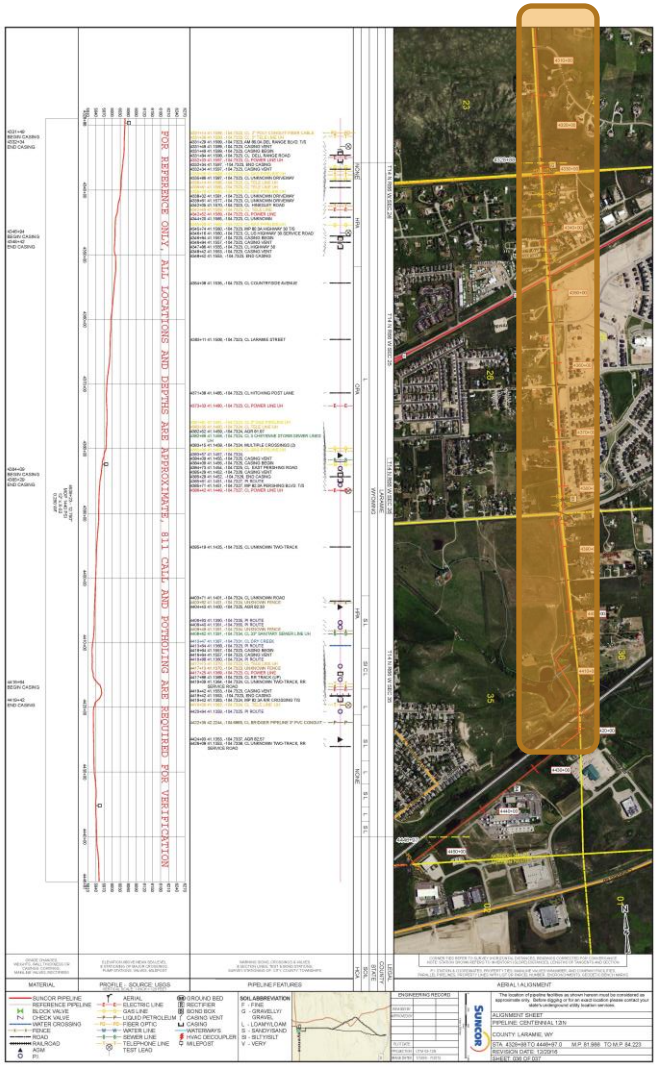
- Blackhills Energy
  - Underground natural gas feeding rural subdivisions

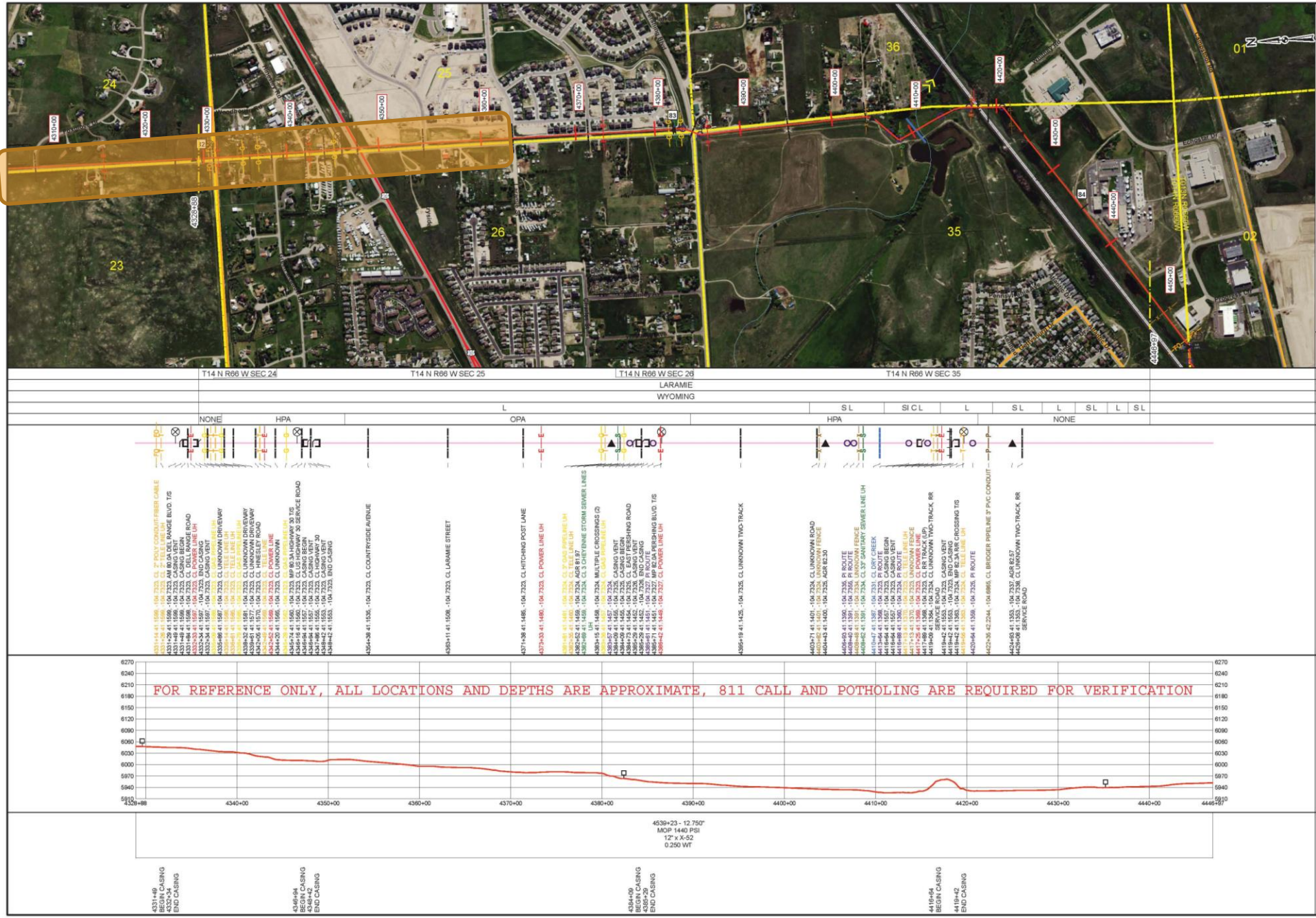
CONSTRAINTS AND OPPORTUNITIES

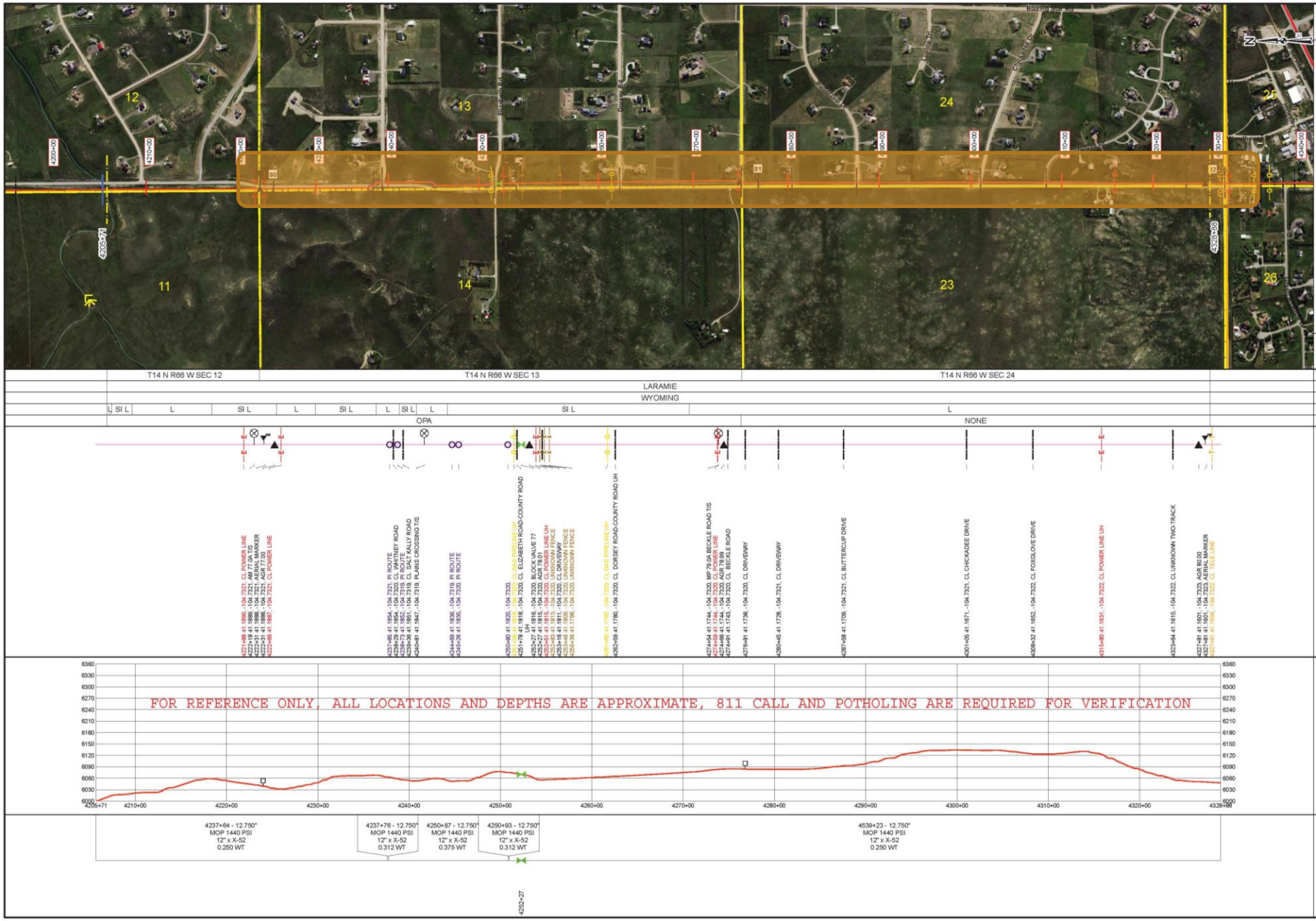
- High West Energy
  - Overhead Electric

CONSTRAINTS AND OPPORTUNITIES

- Suncor Energy
  - 12.75” Steel Crude Line
  - 1,440 psi
  - 2’ to 5’ deep (East Side)
  - Dillon R. Ohrt, SR/WA
    - Right of Way and Public Awareness Coordinator
    - Suncor Energy (U.S.A.) Pipeline Company
  - Meeting scheduled 5/10/17 at Suncor Office

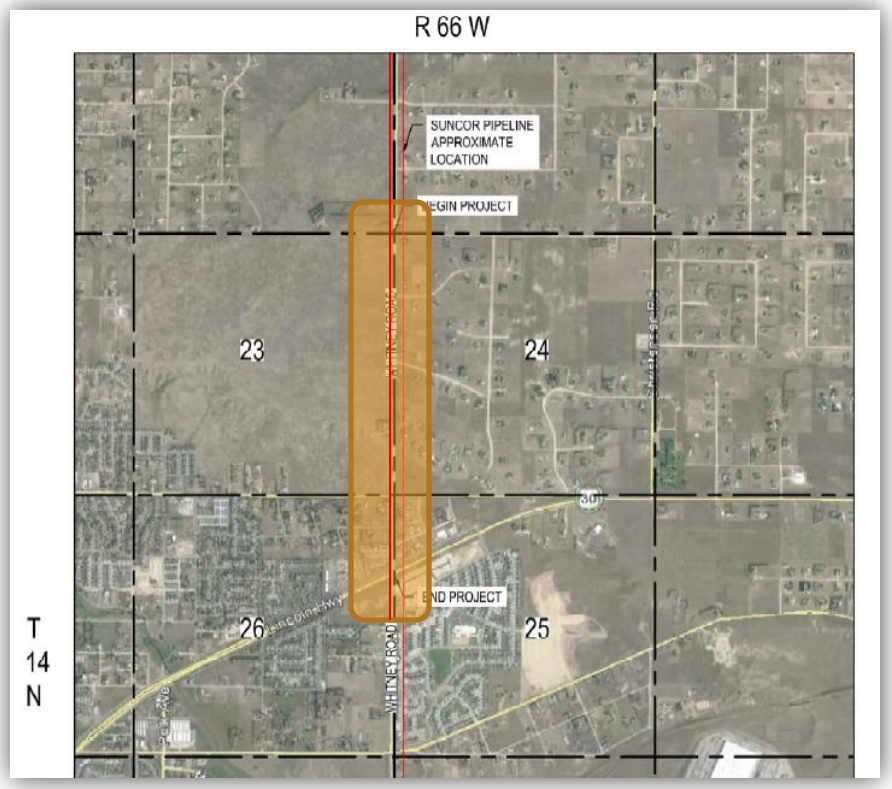



T14 N R66 W SEC 24
T14 N R66 W SEC 25
T14 N R66 W SEC 26
T14 N R66 W SEC 35
LARAMIE
WYOMING
NONE
HPA
OPA
HPA
NONE
FOR REFERENCE ONLY, ALL LOCATIONS AND DEPTHS ARE APPROXIMATE, 811 CALL AND POTHOLING ARE REQUIRED FOR VERIFICATION
4539+23 - 12.750"
MOP 1440 PSI
12" x X-52
0.250 WT


T14 N R66 W SEC 12
T14 N R66 W SEC 13
T14 N R66 W SEC 24
LARAMIE
WYOMING
OPA
NONE
FOR REFERENCE ONLY, ALL LOCATIONS AND DEPTHS ARE APPROXIMATE, 811 CALL AND POTHOLING ARE REQUIRED FOR VERIFICATION
4237+64 - 12.750" MOP 1440 PSI 12" x X-52 0.250 WT
4237+76 - 12.750" MOP 1440 PSI 12" x X-52 0.312 WT
4250+87 - 12.750" MOP 1440 PSI 12" x X-52 0.375 WT
4250+93 - 12.750" MOP 1440 PSI 12" x X-52 0.312 WT
4539+23 - 12.750" MOP 1440 PSI 12" x X-52 0.250 WT

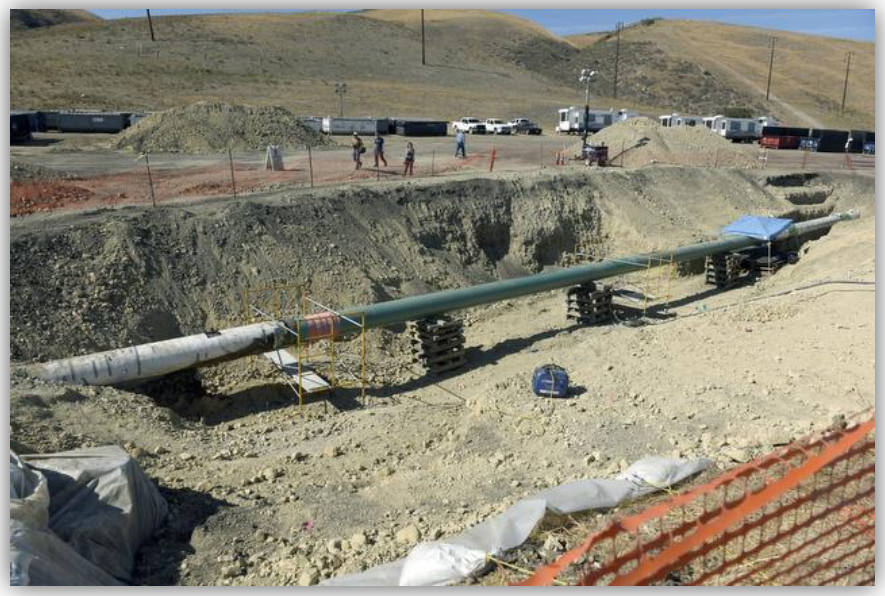
CONSTRAINTS AND OPPORTUNITIES

- Plains All American Pipeline System, LLC
  - 16” Steel Crude
  - 4’-3” to 14’-5” (West Side)
  - Gregg Werger
    - Plains All American Pipeline
    - Manager-Pipeline Commercial Operations
    - In process of setting up meeting



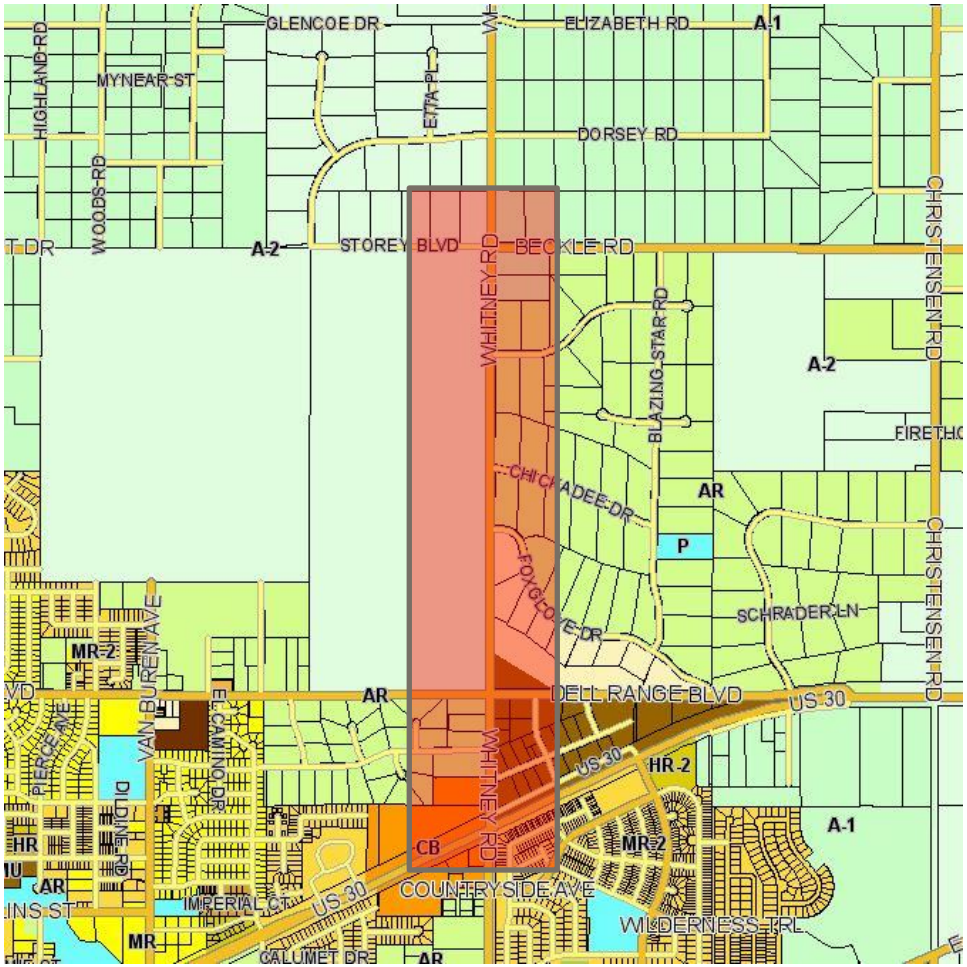
CONSTRAINTS AND OPPORTUNITIES

- Agenda Pipeline Companies
  - Introductions
  - Additional available pipeline details
  - Ability to isolated relocate/ realign
    - Procedure
    - Constraints
    - Typical Costs
    - Timing



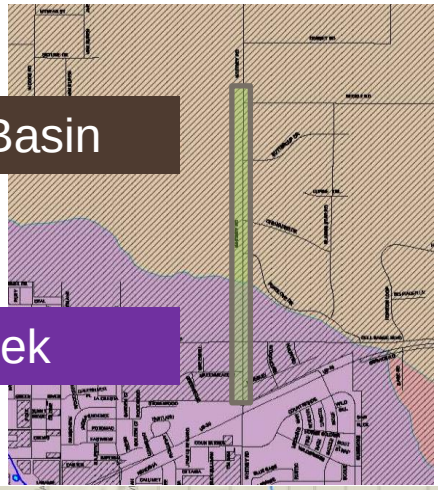
CONSTRAINTS AND OPPORTUNITIES

- Existing Zoning
  - AR – Agricultural Residential
  - A2 – Agricultural
  - A1 – Agriculture and Rural Residential
  - CB – Community Business
  - MU – Mixed Use
  - HR-2 (City of Cheyenne)High Density Residential Developing



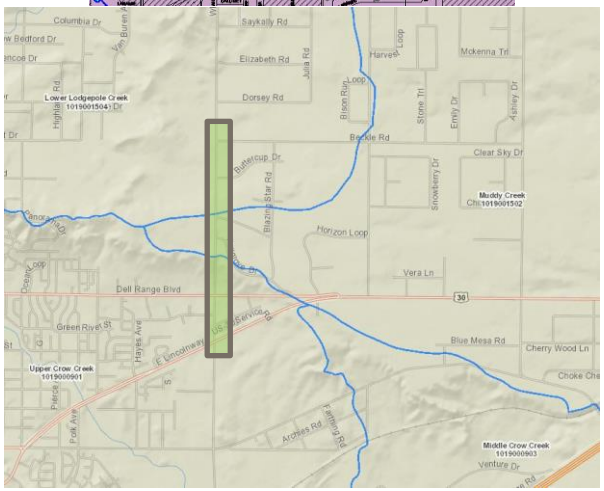
CONSTRAINTS AND OPPORTUNITIES

- Drainage

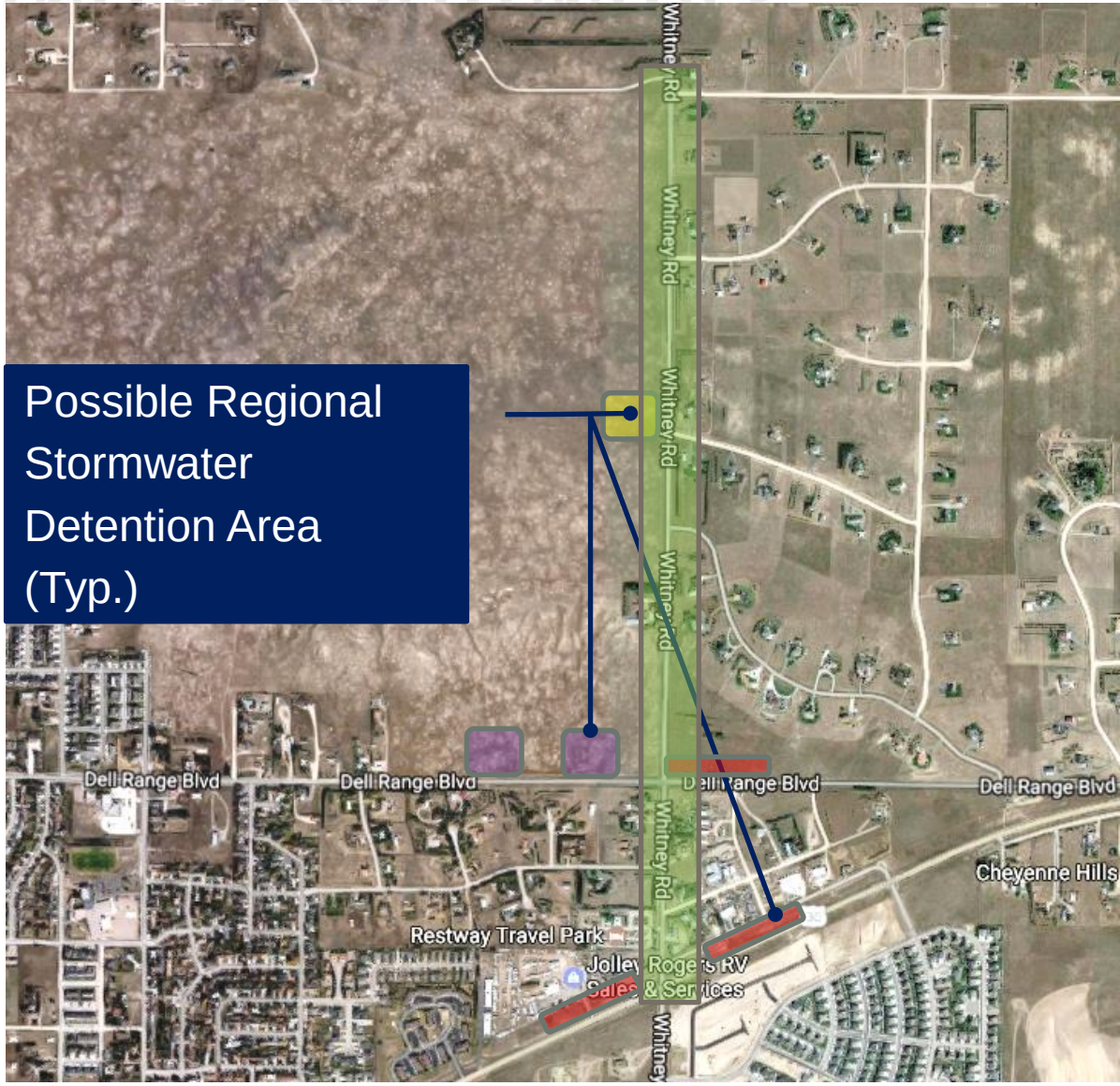


Childs Basin

Dry Creek

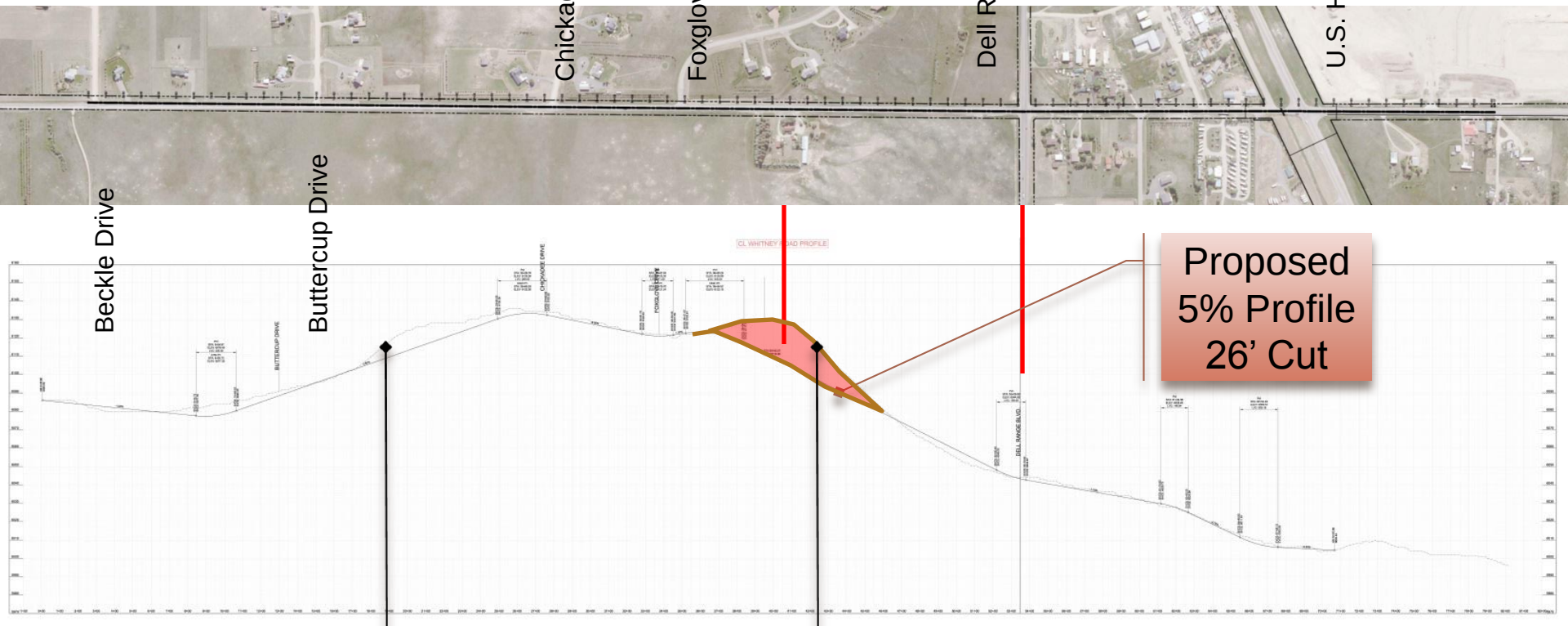


Possible Regional Stormwater Detention Area (Typ.)



CONSTRAINTS AND OPPORTUNITIES

- Profile



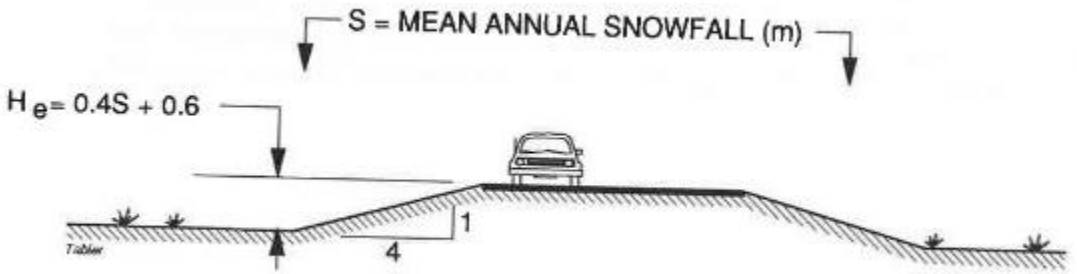
CONSTRAINTS AND OPPORTUNITIES

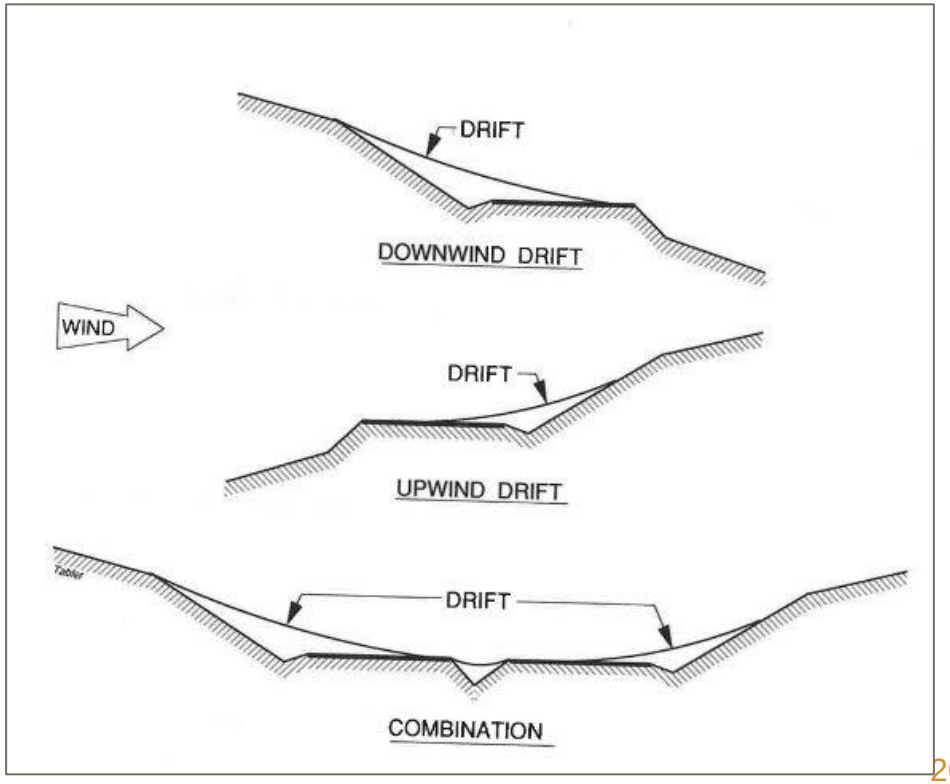
- Snow Transport
  - Fill Sections
    - Minimum Height

      He = 0.4S + 0.6

      He = 0.4(1.53m)+0.6m

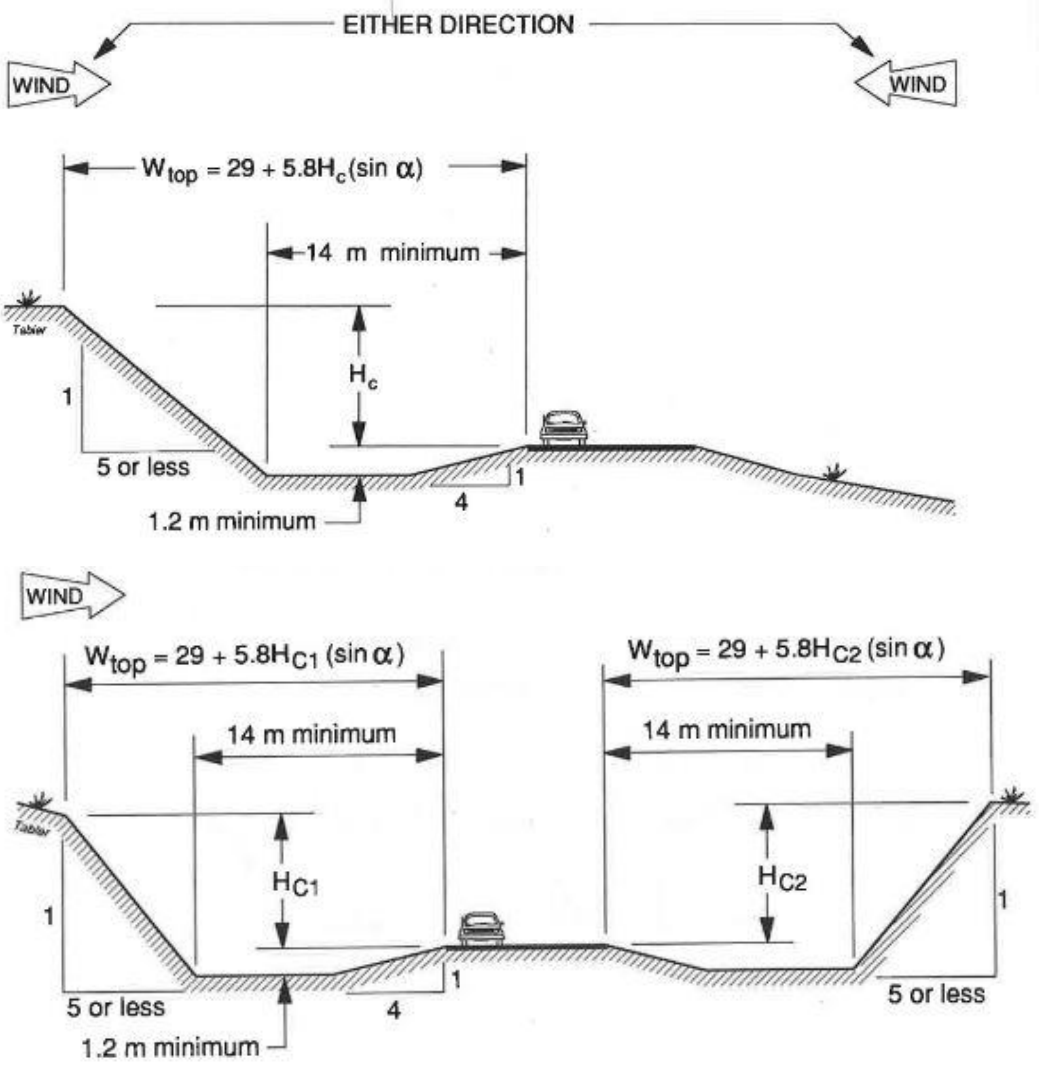
      He = 1.21 m (4’)
  - Cut Sections



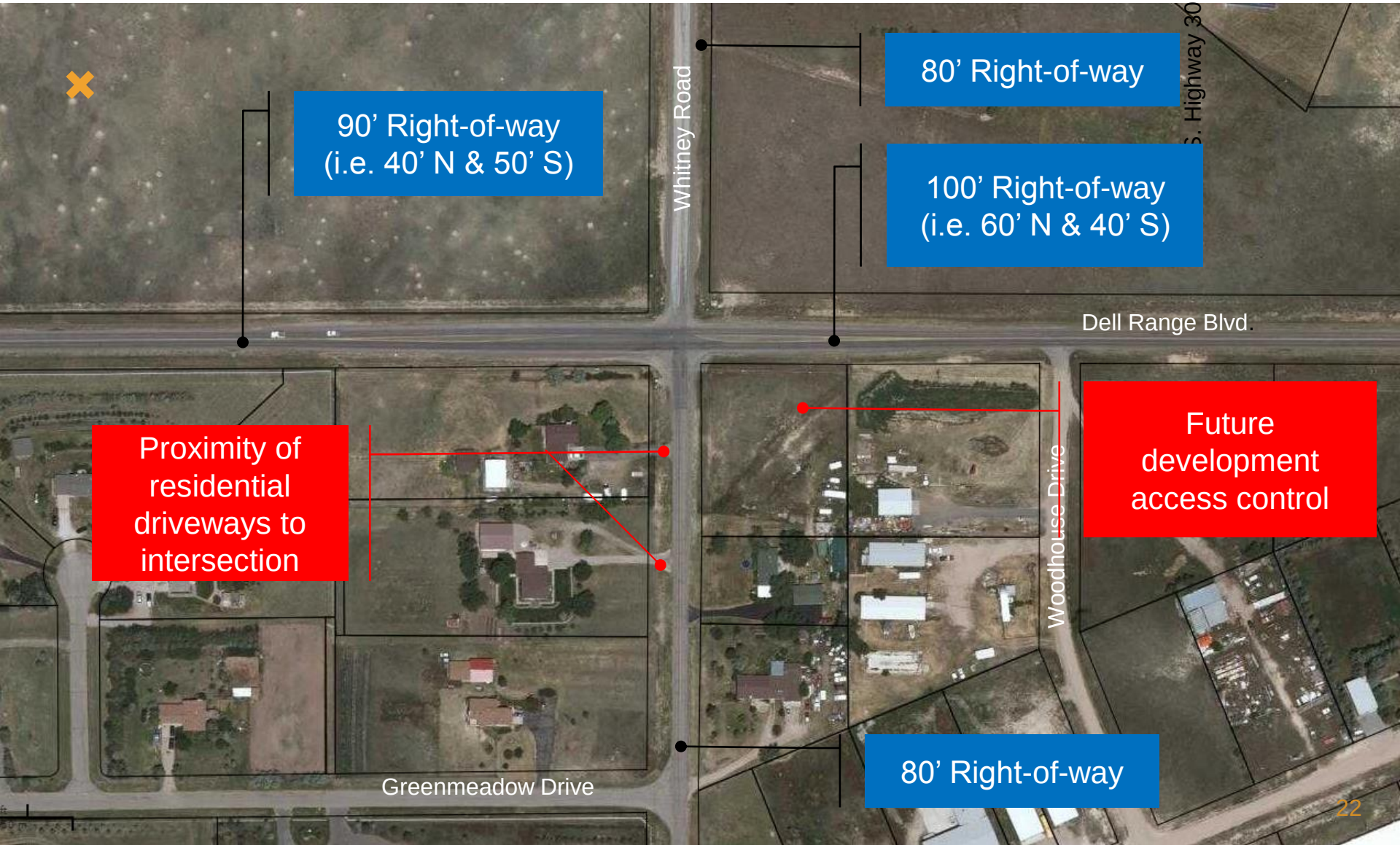


CONSTRAINTS AND OPPORTUNITIES

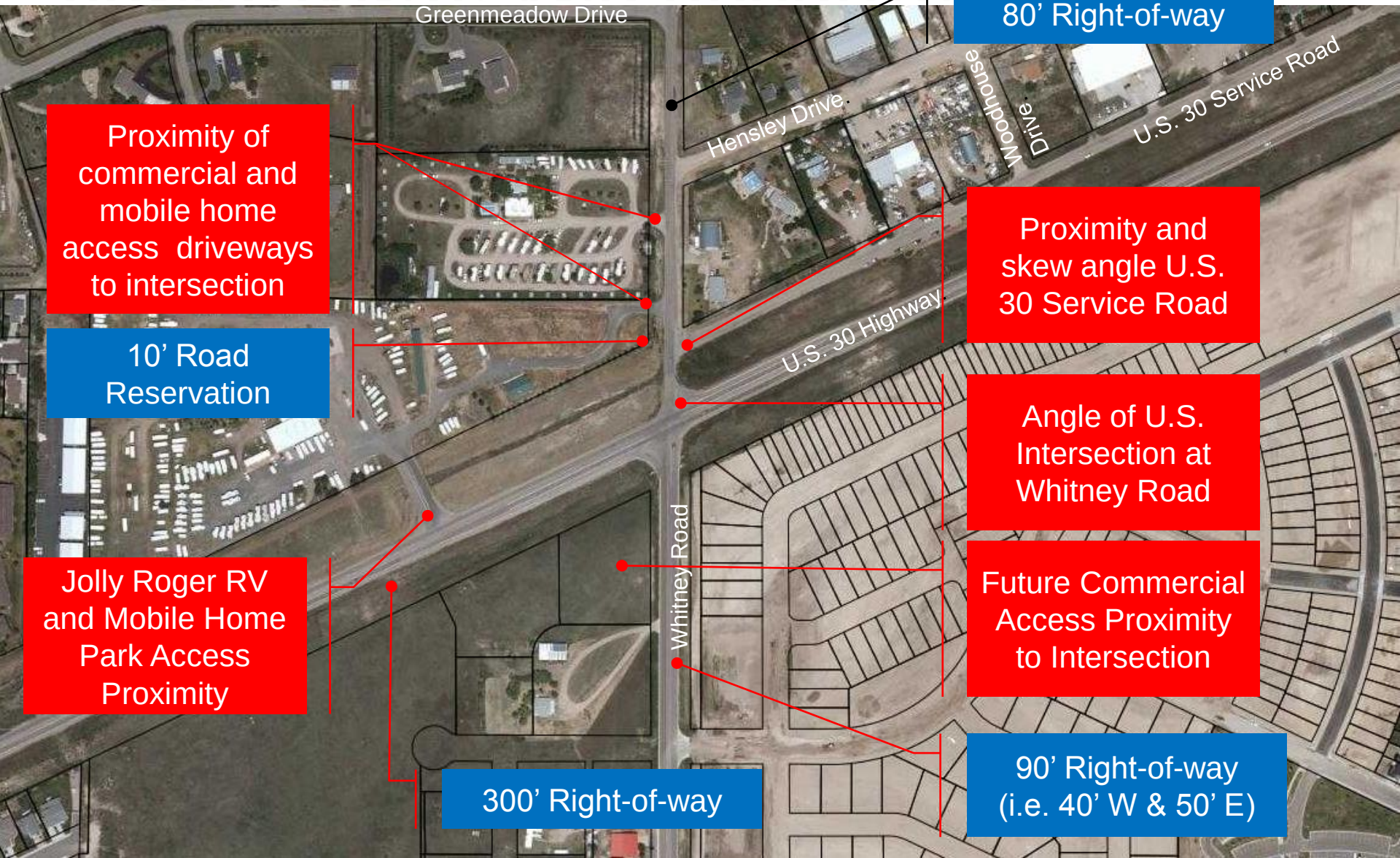
- Snow Transport
  - Cut Sections



CONSTRAINTS AND OPPORTUNITIES



CONSTRAINTS AND OPPORTUNITIES



CONSTRAINTS AND OPPORTUNITIES

- Intersections
  - Dell Range Boulevard
    - 11 crashes during the last six years
    - All were angle crashes
  - US 30
    - Ten (10) crashes during the last four years
    - Five (5) were angle crashes
  - Beckle Road

CONSTRAINTS AND OPPORTUNITIES

- Roadway Concepts
  - What are the adjacent conditions and uses?
  - How does the edge affect the streetscape?
  - What variations can be made to create a more user-friendly corridor?
  - What movement and interaction will take place in this corridor?

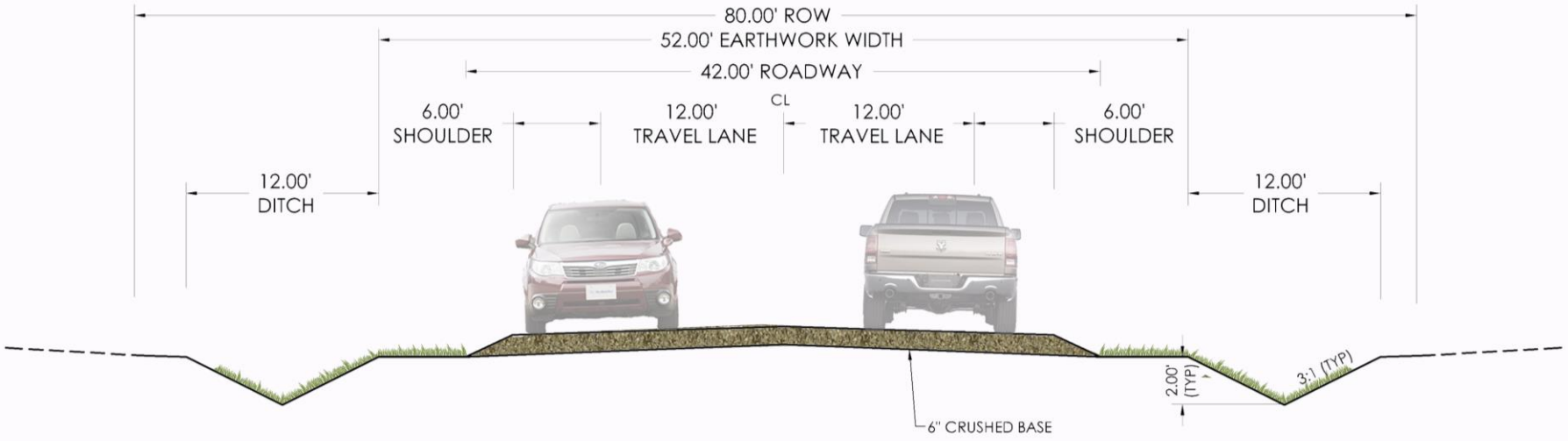
ROADWAY/ INTERSECTION CONCEPTS

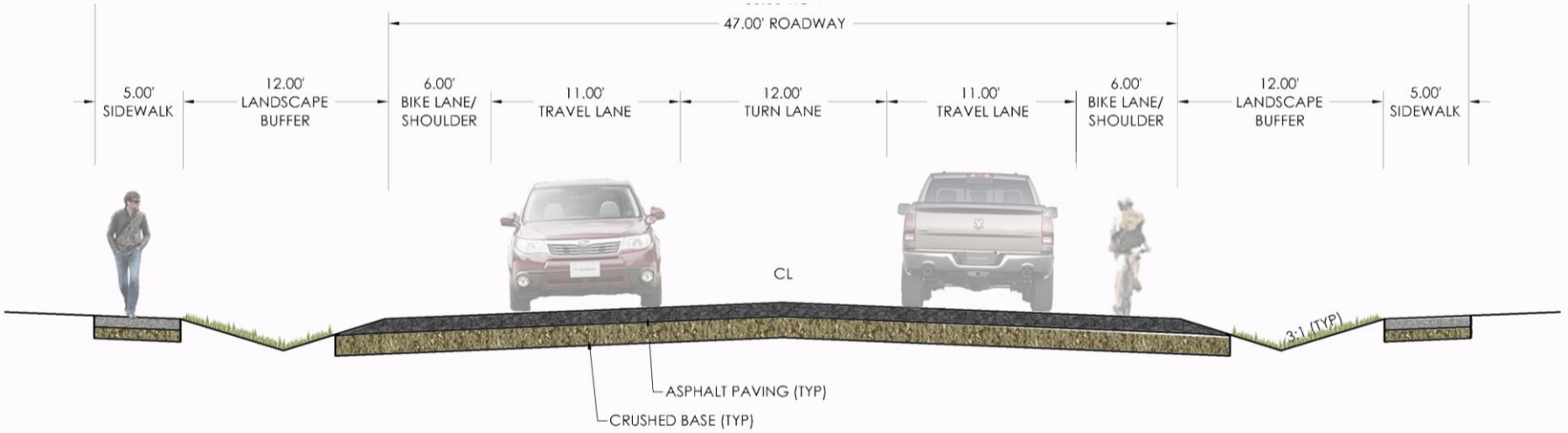
- Signal Warrants
  - Dell Range Boulevard
    - Not close to warranting signalization
    - January 2016 counts
  - US 30
    - Close to warranting signalization
    - March 2015 counts

PURPOSE, OBJECTIVES, AND GOALS

- **Purpose**
  - Create a comprehensive planning document that will optimize safety, growth and fiscal responsibility.
- **Objective**
  - Development of a 10% conceptual design for Whitney Road between U.S. 30 and Beckle Road/ Storey Blvd.
- **Goals:**
  - Improve intersection and roadway design,
  - Address considerations such as drainage and snow drifting
  - Follow a comprehensive planning and public involvement process strategy.

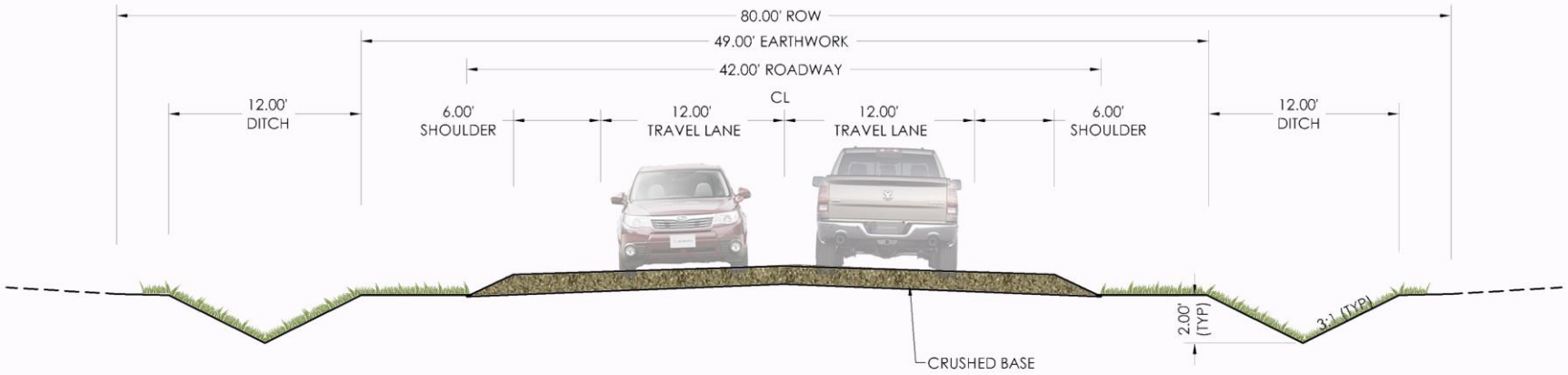
INITIAL CONCEPTS



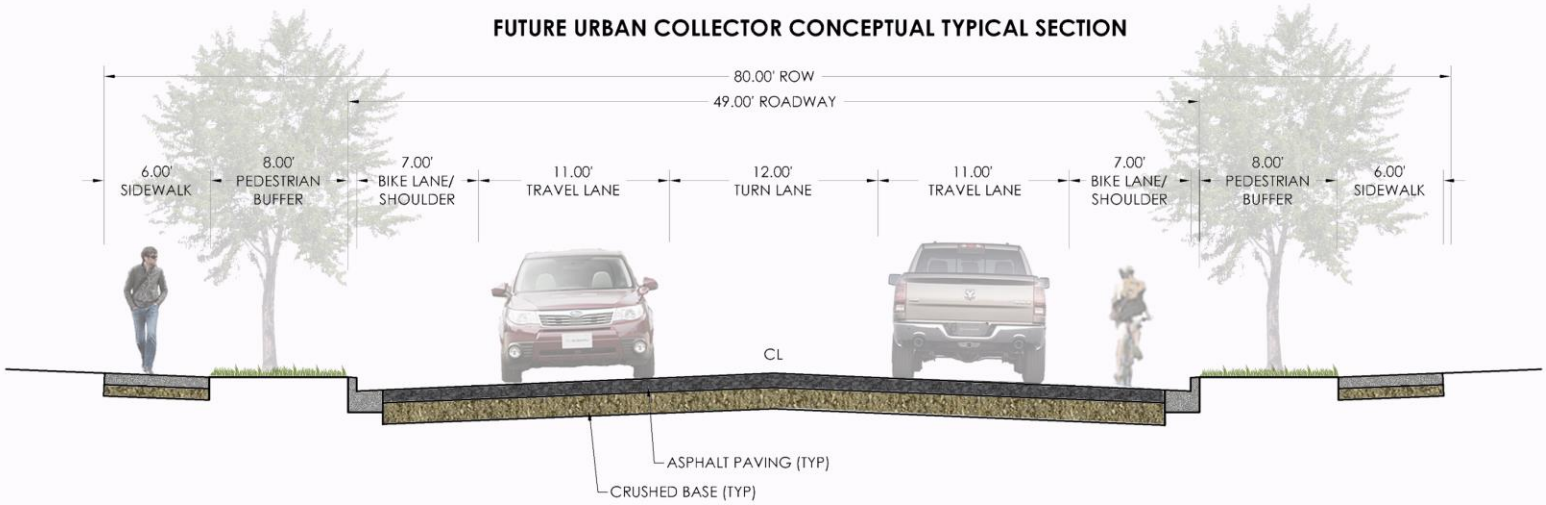


INITIAL CONCEPTS

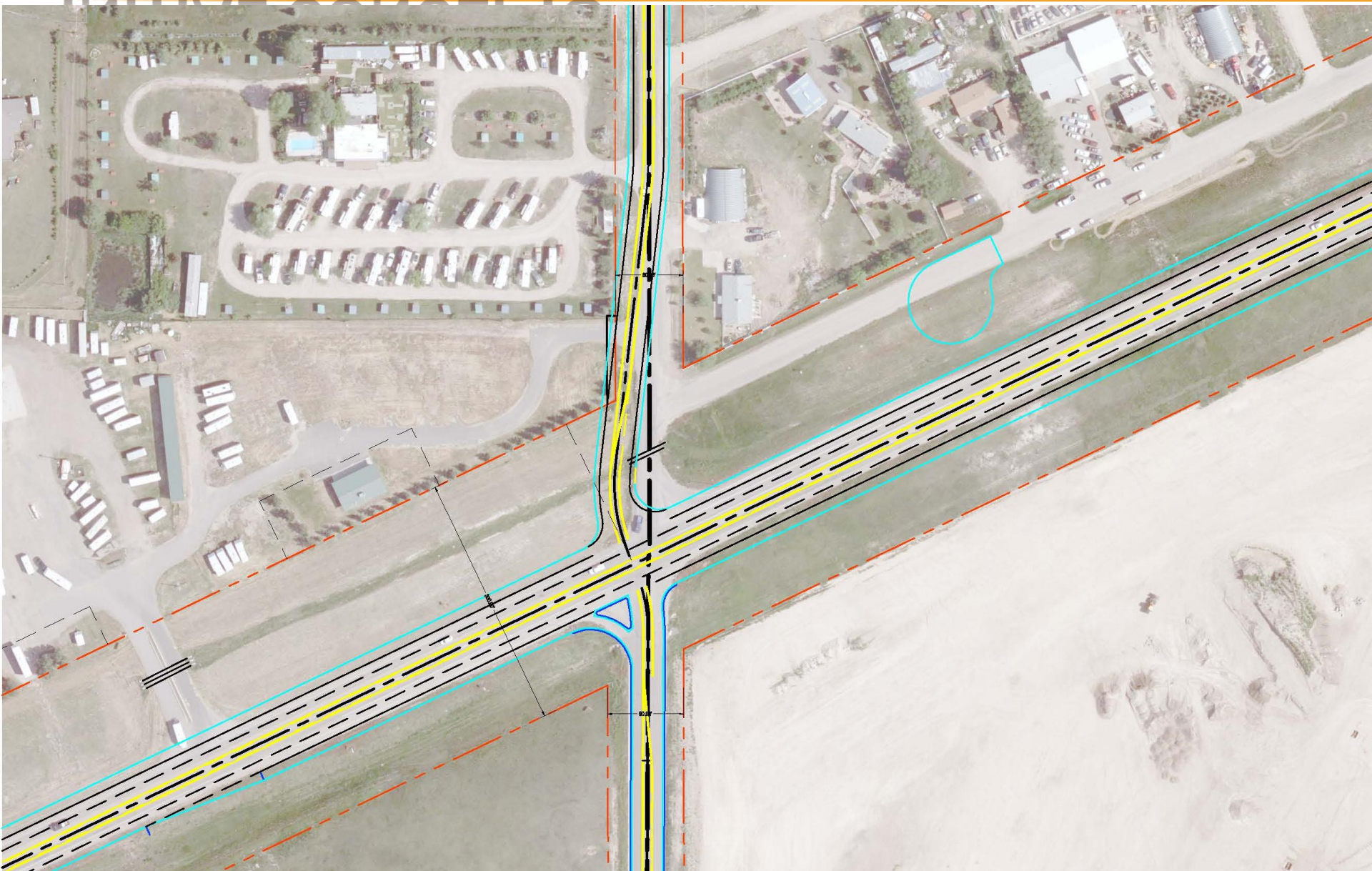
PROPOSED URBAN COLLECTOR CONCEPTUAL TYPICAL SECTION



FUTURE URBAN COLLECTOR CONCEPTUAL TYPICAL SECTION

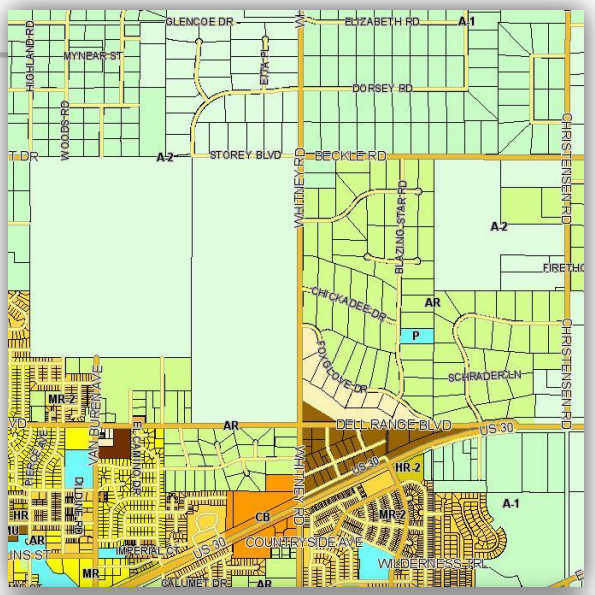


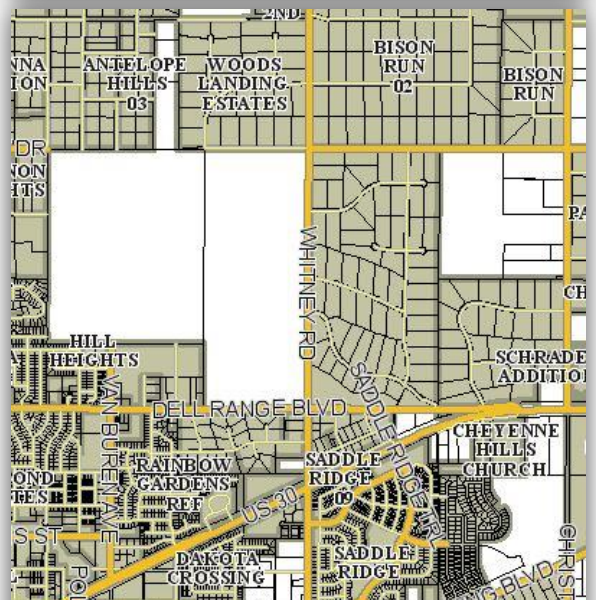
INITIAL CONCEPTS



OTHER

- Block Meeting Concept
  - Logistics
    - Post Card Mailings
      - Introduce Block Meeting Concept
      - Roll-out social media availability
        - Compile Email/ Contact Information
  - Format
    - Introduce project and why?
    - Listen concerns and ideas
    - What is their vision of the corridor?





STEERING COMMITTE MEETING NO. 1 2
WHITNEY ROAD CORRIDOR STUDY

February 23, 2018 @ 1:30 P.M.

•LIST OF ATTENDEES •

Please Initial To Record Attendance	NAME	COMPANY	EMAIL	CELL/ PHONE
BO	Bruce Hattig	BOPU	bhattig@cheyennebopu.org	(307)637-6416
	Daryl Johnson	AVI	djohnson@avipc.com	(307)631-7891 (307)637-6017
	Jef McMann	Black Hills Corp	Jef.Mcmann@blackhillscorp.com	(307)778-2144
	Jeffery Mellor	WYDOT	jeffery.mellor@wyo.gov	(307)777-4164
	Lloyd Sisson	High West Energy	lsisson@highwestenergy.com	(307)245-4302
	Nancy Olson	MPO	nolson@cheyennempo.org	(307)638-4366
NB	Nathan Beauheim	City of Cheyenne	nbeauheim@cheyennecity.org	(307)638-4315
	Randy Griesbach	WYDOT	randy.griesbach@wyo.gov	(307)745-2100
	Rob Geringer	Laramie County	rgeringer@laramiecounty.com	(307)633-4618
	~~Sreyoshi Chakraborty~~	MPO	schakraborty@cheyennempo.org	(307)638-4384
	Susana Montana	City of Cheyenne	smontana@cheyennecity.com	(307)637-6528
	Timothy Morton	WYDOT	timothy.morton@wyo.gov	
TDC	Tom Cobb	AVI	cobb@avipc.com	(970)214-6542 (307)637-6017
TM	Tom Mason	MPO	tmason@cheyennempo.org	(307)637-6299
VIAPX	Joe Henderson	STS	joe@sustaibabletrafficsolutions.com	(303)589.6875

Whitney Road Corridor Study
Steering Committee Meeting #2
January 23, 2018

I. Introduction and Sign In

II. Power Point Discussion
   a. Study Area
   b. Objectives
   c. Objectives of Steering Committee
      - ✓ Comments or Additional Ideas for Intersection options
      - ✓ Comments or Additional Ideas for Conceptual Typical Section(s)

   d. Overview of Activities to Date
   e. Summary of Public Comments
   f. Whitney Ranch Masterplan Updates
   g. Proposed Wet Utility Upgrades/ Options
      - ✓ Water
      - ✓ Sewer
      - ✓ Storm
      - ✓ Detention
   h. Traffic data and figures (Kimley Horn Whitney Ranch)
   i. Typical Section Alternatives
      - ✓ Rural
      - ✓ Urban
      - ✓ Pedestrian Options: Trail, Multi-use Path, Sidewalk
   j. Profile Review
   k. Intersection Alternatives
      - ✓ Whitney and Dell Range
        1. Standard Intersection
        2. Free RT SB To EB
      - ✓ Roundabout Option

   l. Whitney and U.S. 30
      - ✓ Realign to eliminate skew
        1. Signalize Intersection warranted
      - ✓ Lane configuration/ widening
        1. Signalization

III. Other items

(303) 589.6875
(307) 745.2111

RALPH TARANGO =

MIKE MENGHINI

2036 23,500 ADT

5 LANE SECTION TO VAIL
BACKGROUND CHECK T. MASON REVIEW

IRON MOUNTAIN PAVED THIS SUMMER
8' SHOULDER, PAVED.

JUSTIN (BEECHER)

(EBL)

FLASHING AT NIGHT

EB TO NB

* REALIGN — TO WHITNEY RANCH

PROJECT PAGE
LOCATION DATE
PRODUCT BY
CLIENT CHECKED

ENGINEERING | PLANNING | SURVEYING

WHITNEY ROAD 10% CORRIDOR PLAN

Steering Committee Meeting #2

January 22, 2018

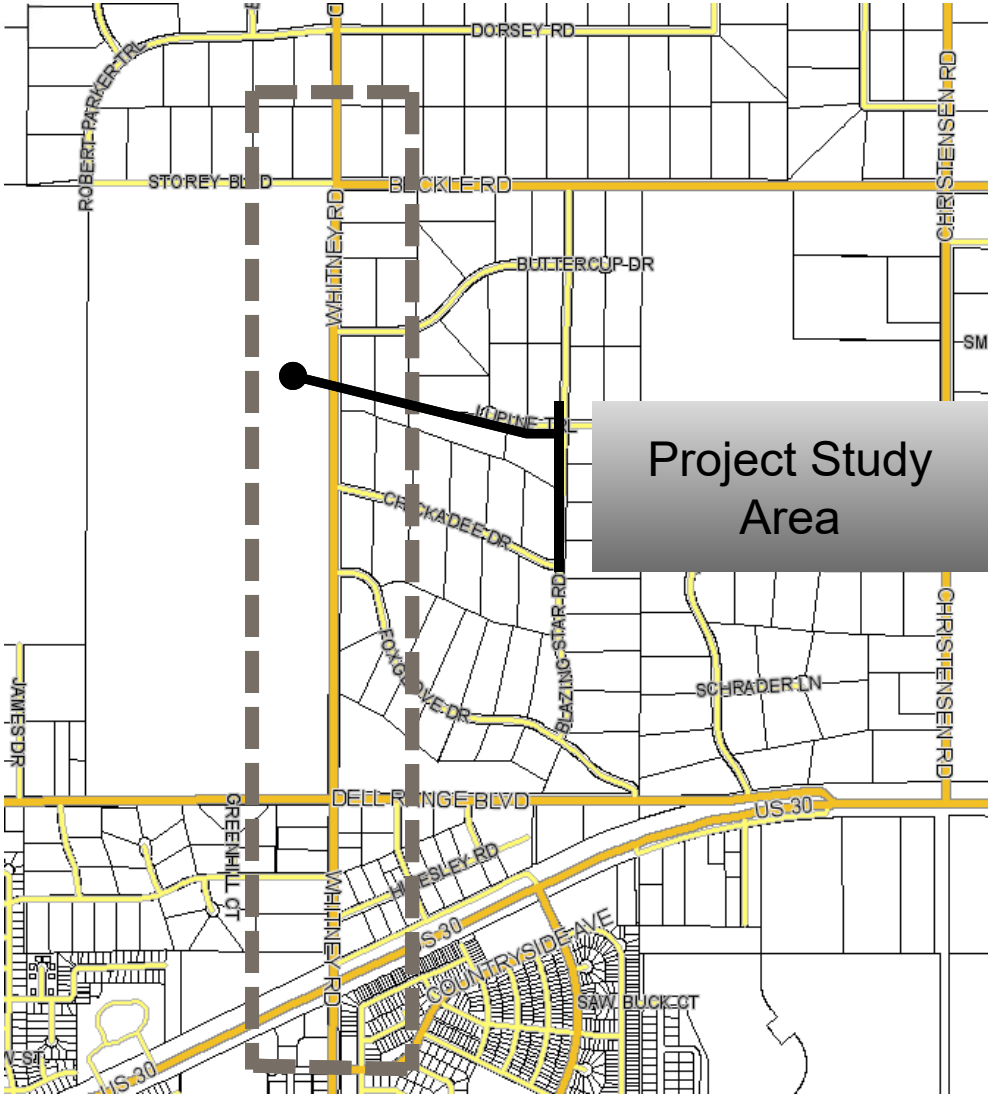
ENGINEERING
PLANNING
SURVEYING
PC

AGENDA

- Sign In Sheet
- Project Overview
- Objectives of this Meeting
- Overview of Activities To Date
- Summary of Public Meeting No. 1
- Whitney Ranch Master Plan Updates
- Proposed Wet Utility Upgrades/ Options
- Profile Review
- Intersection Alternatives
- Other Items

PROJECT OVERVIEW

- Limits
  - Northern Limit – Storey Blvd./ Beckle Road
  - Southern Limit – U.S. 30
- Objective
  - Create a comprehensive plan which strives to optimize safety, growth, and fiscal responsibility
- Goals
  - Understand the community and neighborhood vision for the roadway
  - Improve roadway and intersection safety and function
  - Address drainage and snow drifting



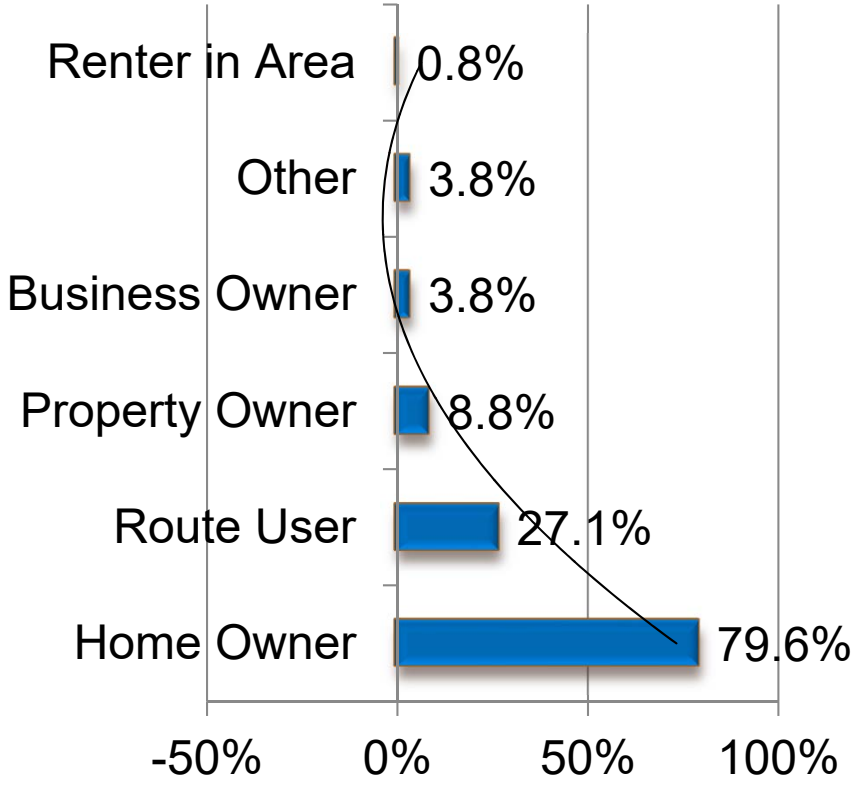
OBJECTIVES OF TODAY'S MEETING

- Comments or Additional Ideas for Intersection Options
- Input on Preliminary Recommended Typical Sections
- Input on Pedestrian, Trial, and Bike Options
- Other Items
  - Profile Input
  - Petroleum Line Realignment/ Options

OVERVIEW OF ACTIVITIES TODATE?

PROJECT MILESTONES	MILESTONE DATES
Notice to Proceed	**March 1, 2017**
Initial Kickoff Meeting MPO	**March 22, 2017**
Traffic Counts	**April 4, 2017**
Steering Committee Meetings	**May 9, 2017;** **January 23, 2018**
Open House/ Public Meeting #1	**November 8, 2017**
Draft Plan	**November 2017** – February, 2018
Neighborhood Meeting #2	January, 2018?
Submit DRAFT Plan to MPO	January, 2018
Presentation to the Governing Body	March, 2018

SUMMARY OF PUBLIC MEETING NO. 1

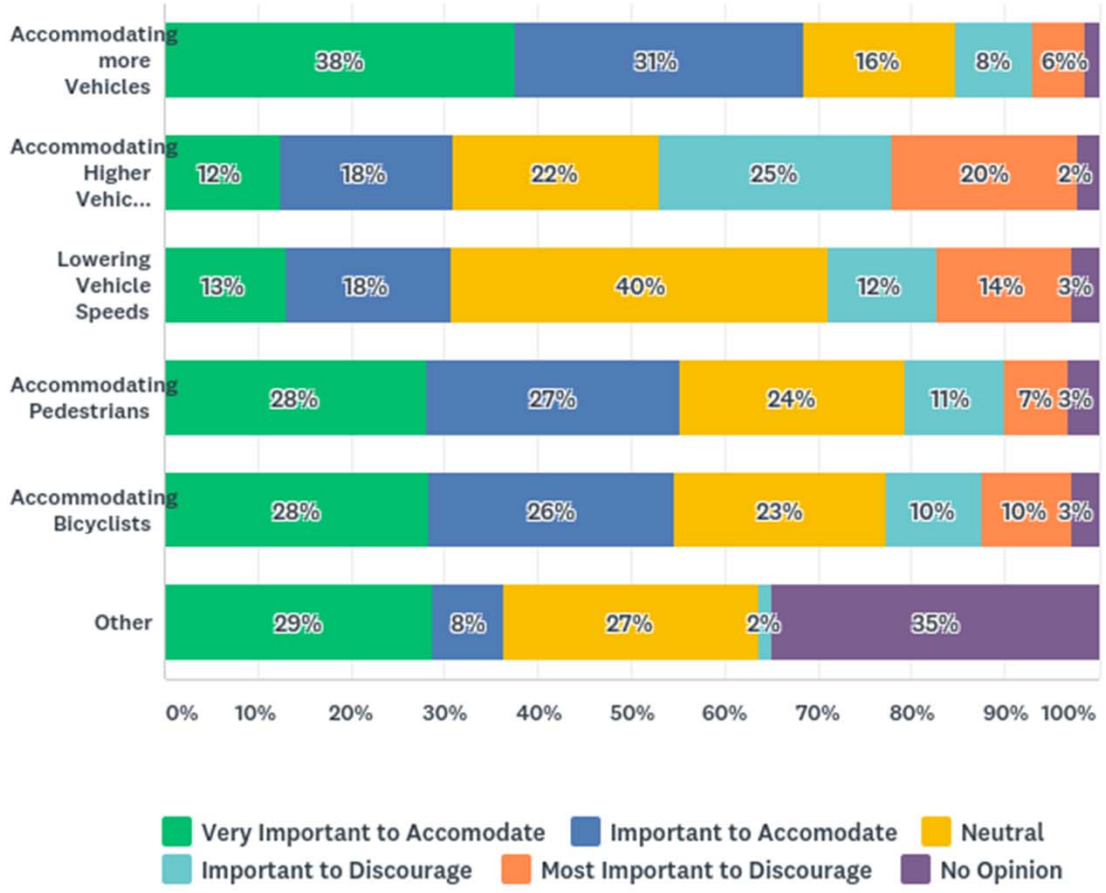


- Who attended?
  - 120 People Sign-in
  - 150 Estimated Attendance
  - 240 Responses (1/10/18)

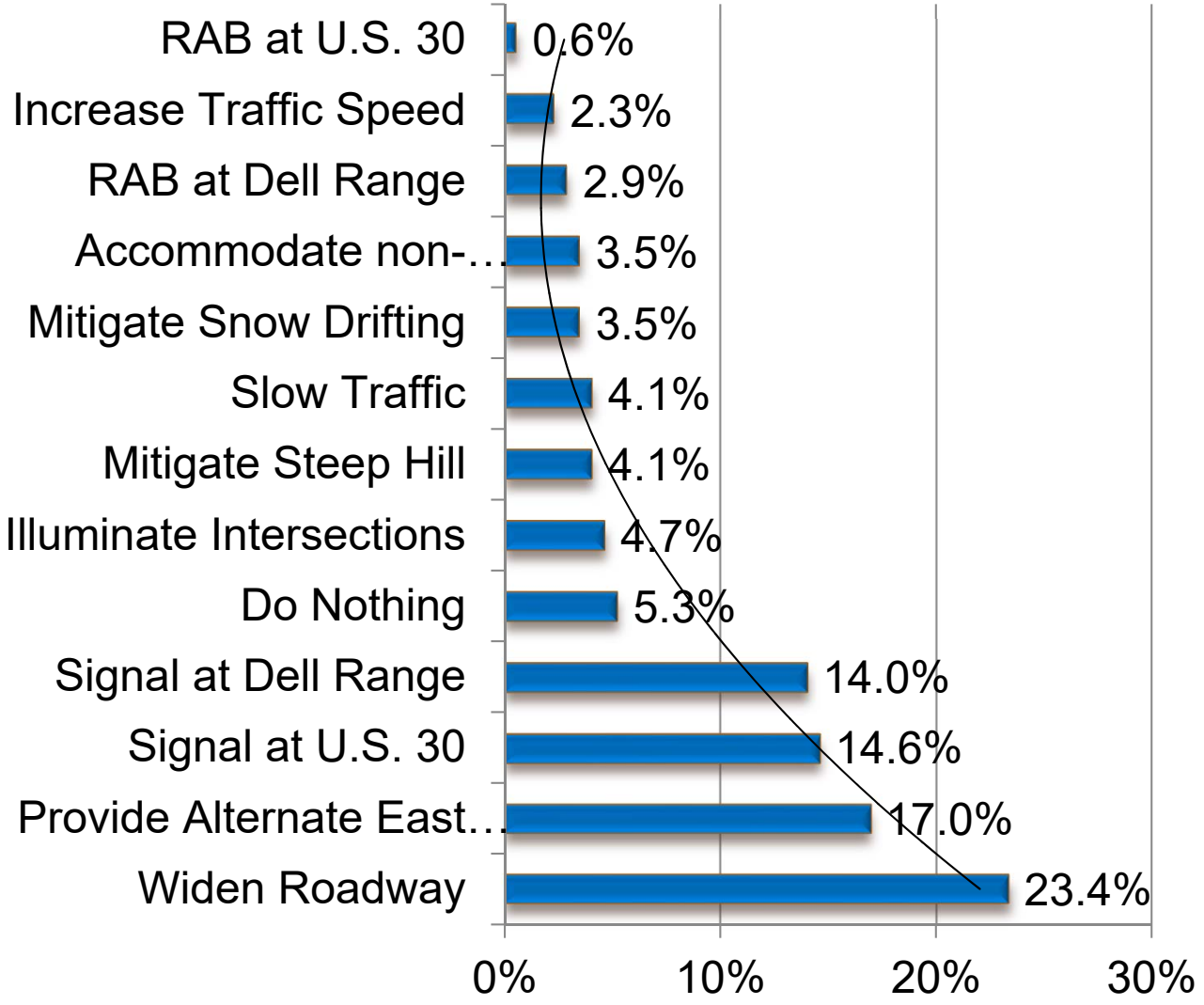
- Other: Real Estate Broker (2), Cheyenne Resident thinking of moving over there (2), Friend of homeowner in area, Homeowner in Cheyenne (1), MPO CAC Member.

SUMMARY OF PUBLIC MEETING NO. 1

Q3 Please rate the importance of the following transportation users and issues based on what you consider to be the most important design consideration for Whitney Road?



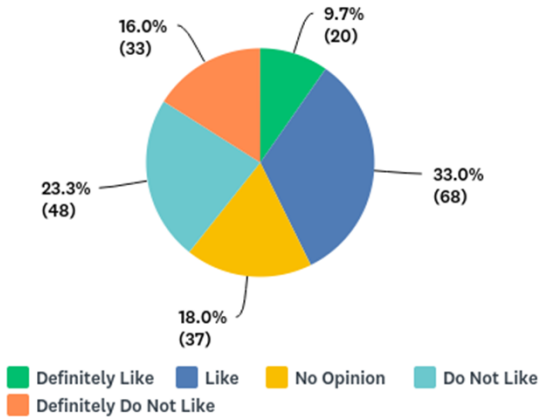
SUMMARY OF PUBLIC MEETING NO. 1



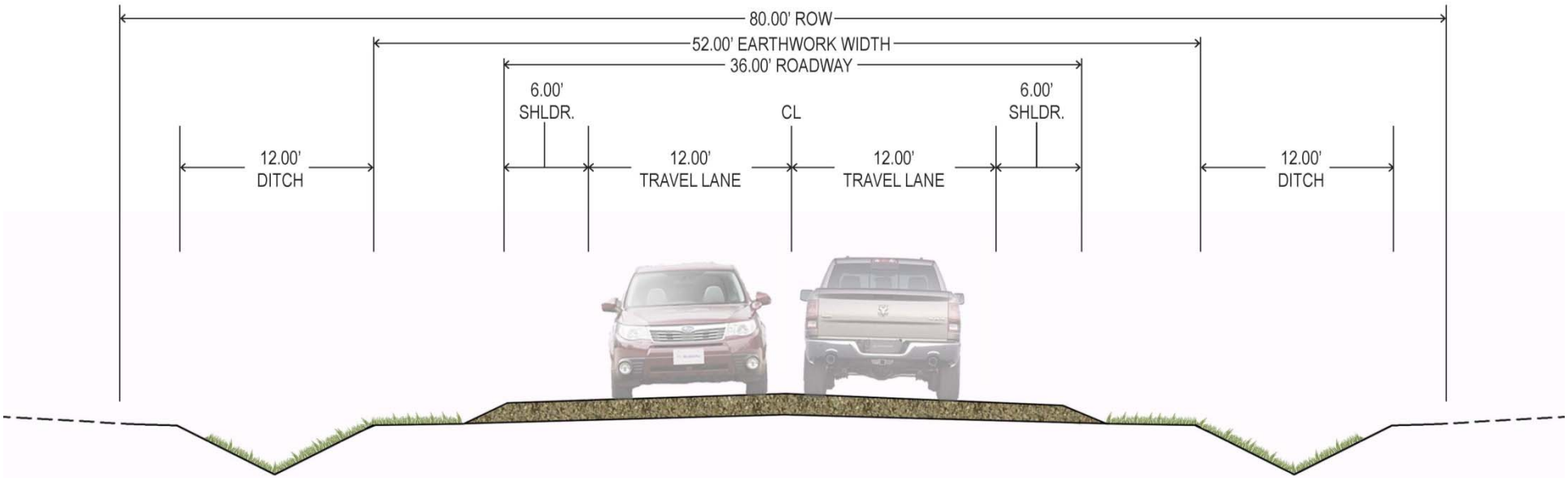
Q4: If you could make one change to the existing Whitney Road Corridor, what change would you make?

SUMMARY OF PUBLIC MEETING NO. 1

Q5 Please rate the Conceptual Rural 2 Lane Roadway Typical Section for Whitney Road shown above

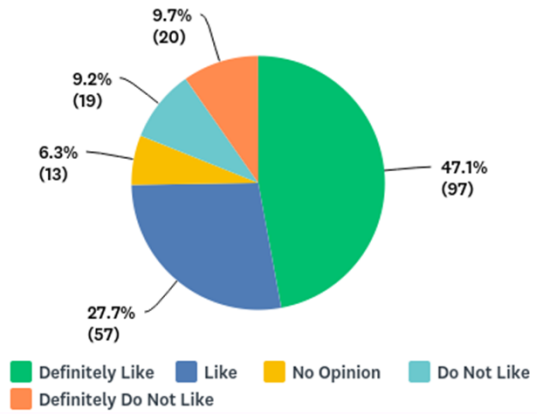


- 42.7% Definitely Like + Like
- 39.3% Do Not Like + Definitely Do Not Like

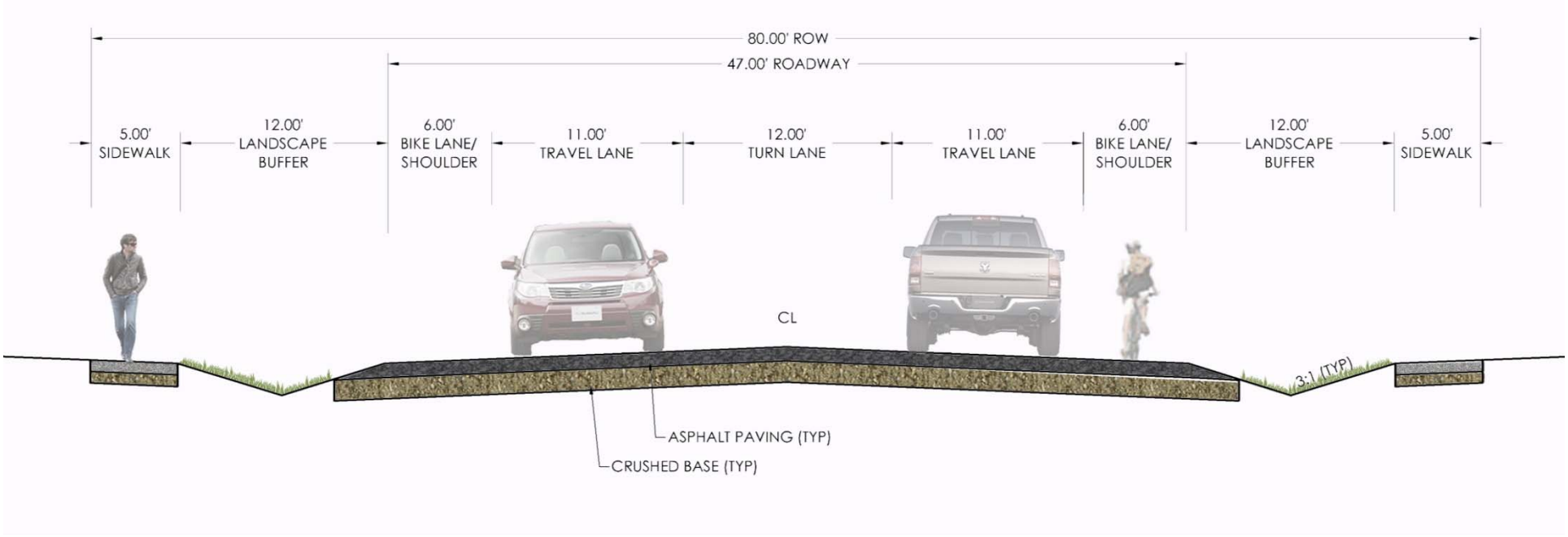


SUMMARY OF PUBLIC MEETING NO. 1

Q6 Please rate the Conceptual Rural 3 Lane Roadway Typical Section for Whitney Road shown above.

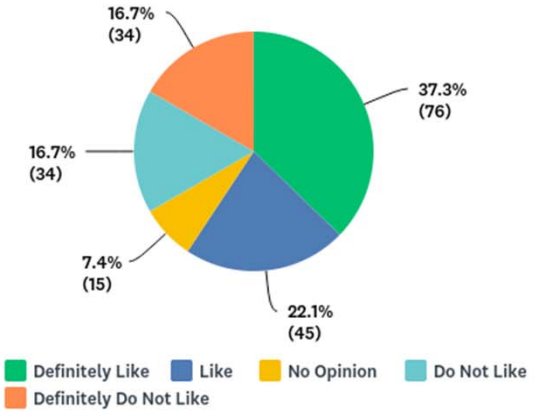


- 74.8% Definitely Like + Like
- 18.9% Do Not Like + Definitely Do Not Like

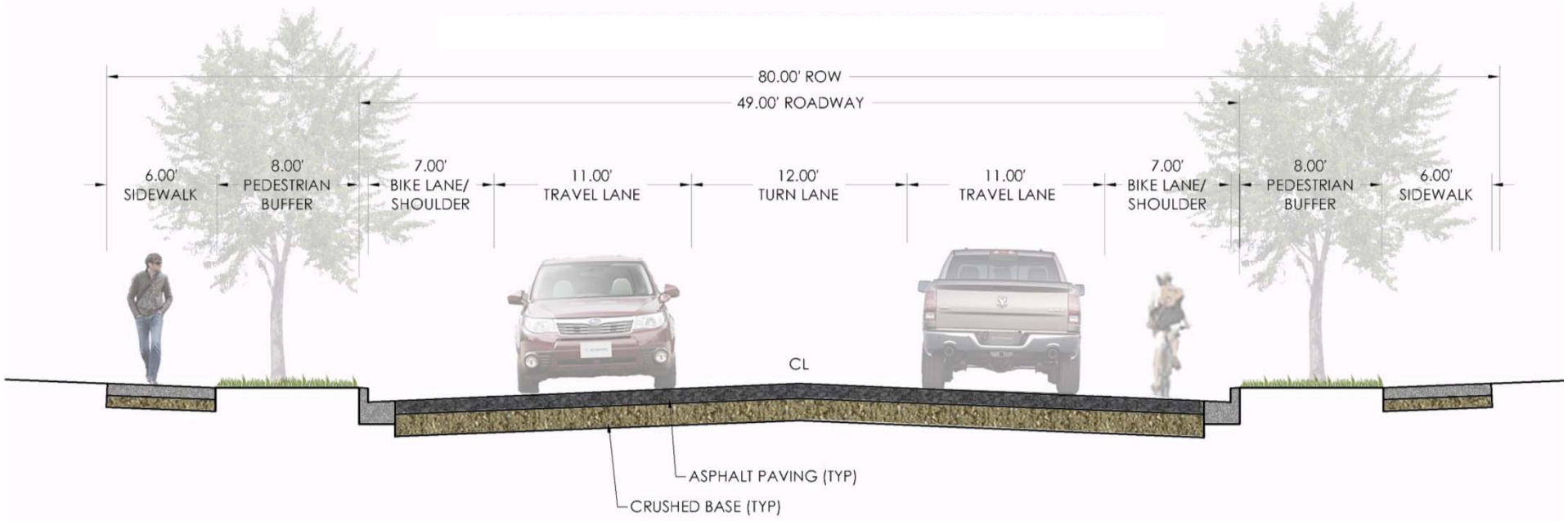


SUMMARY OF PUBLIC MEETING NO. 1

Q7 Please rate the Conceptual Urban 3 lane Roadway Typical Section for Whitney Road shown above.



- 59.4% Definitely Like + Like
- 33.4% Do Not Like + Definitely Do Not Like



SUMMARY OF PUBLIC MEETING NO. 1

- Q8: Do you have any additional ideas, information, or other comments that you would like to provide at this time?
  - Connecting Storey to Summit would pull so much traffic from Del Range. It would be environmentally friendly as it would reduce miles for 100's if not 1,000s everyday. It would make Del Range safer by reducing many, many Vehicles. Please leave Whitney Rd. alone and make some connections in east Cheyenne.
  - Please review safety of Saykally and other intersections. The hills restrict vision of oncoming traffic when we pull out onto Whitney and people drive very fast. It is a disaster waiting to happen. I'm nervous for my kids to become teens driving on this unsafe intersection! It may be good to reduce speeds on Whitney to 40. Reduce speed on hwy 30 in this are too? If Storey blvd will connect to Whitney, make sure Whitney can safely handle that much more traffic being diverted north through our neighborhood . People other than this neighborhood will use it and our traffic could be increased significantly. Thank you for the public survey and meeting at Dildine.

SUMMARY OF PUBLIC MEETING NO. 1

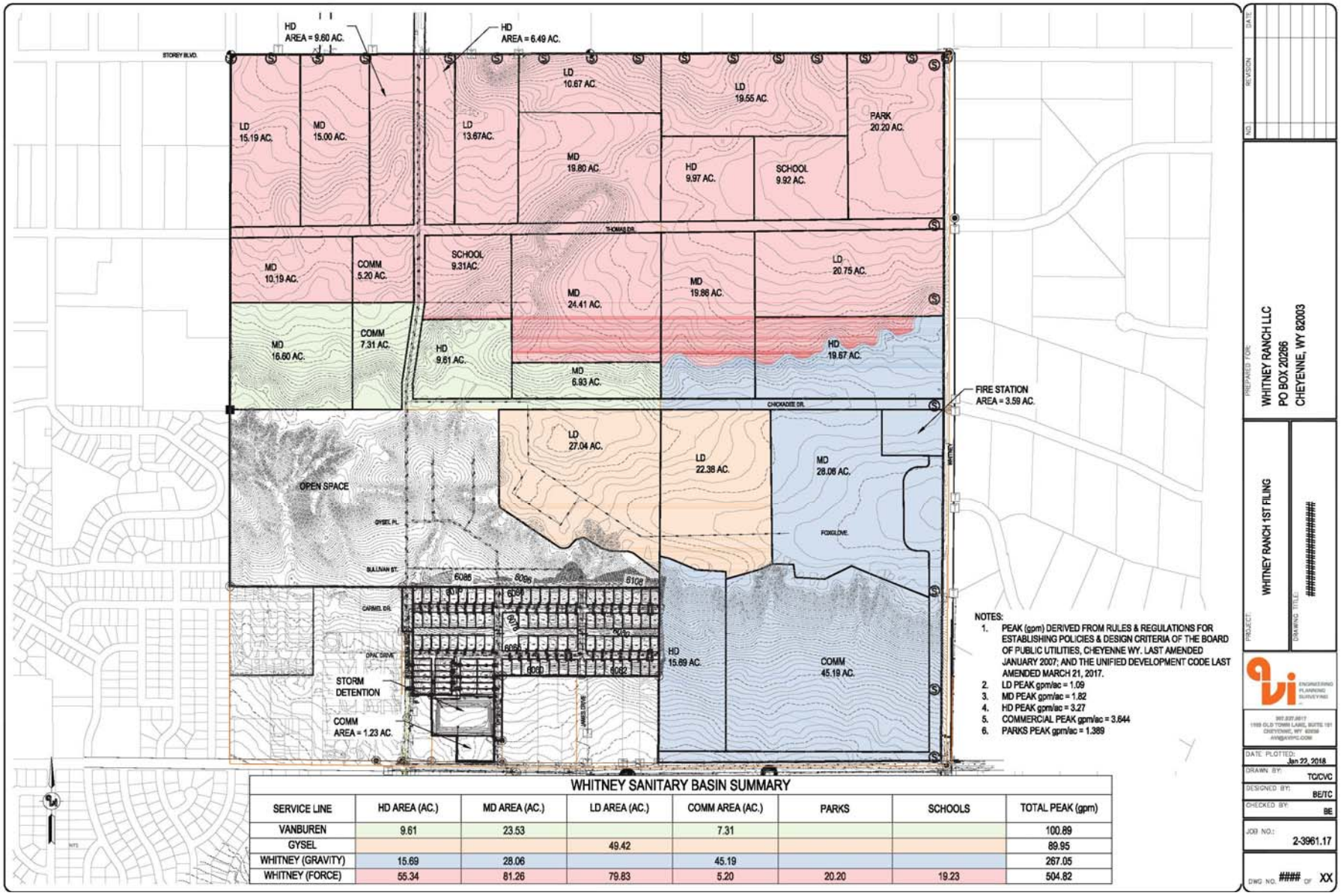
- Winter driving on this road is treacherous. There needs to be a flashing red light at the crossroads of Whitney and Dell Range.
- Paving Iron Mountain Road is the best first move to make. Then looking at adding shoulders to Whitney Road to allow for slightly higher speed limit.
- Plan for multi-use alongside the road such as horses along with bicyclists and pedestrians.
- If I could emphasize anything, it would be the necessity of a stoplight at Whitney and Del Range. It can be, and has been before, extremely dangerous as it is.
- Must provide other paved routes other than Whitney, e.g. Storey Blvd., Four Mile Rd, East Riding Club and/or Iron Mountain Rd.

SUMMARY OF PUBLIC MEETING NO. 1

- Whitney Road planning must include non-vehicular transportation modes and must anticipate a future school(s) in this area. Whitney/Del Range intersection requires careful evaluation and redesign. Please look for below grade crossing opportunities for pedestrians and bicyclists. Is there an opportunity to extend s future spur of the Greenway north along Whitney?

- Leave Summit as it is and extend a different road. If the extension is inevitable, intersection lights at College and Ridge Road are imperative.

WHITNEY RANCH MASTER PLAN UPDATES

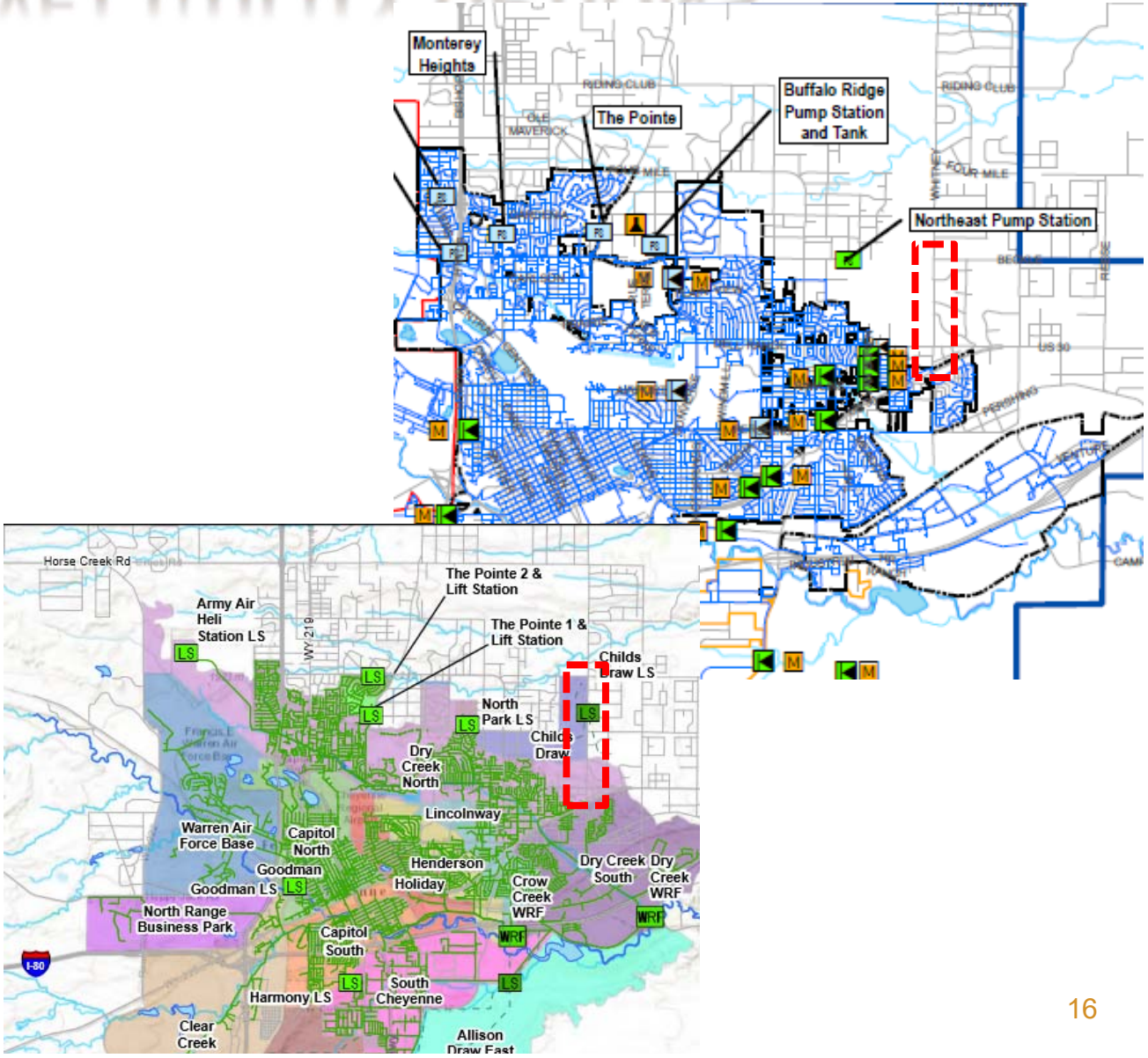


WHITNEY SANITARY BASIN SUMMARY

SERVICE LINE	HD AREA (AC.)	MD AREA (AC.)	LD AREA (AC.)	COMM AREA (AC.)	PARKS	SCHOOLS	TOTAL PEAK (gpm)
VANBUREN	9.61	23.53		7.31			100.89
GYSEL			49.42				89.95
WHITNEY (GRAVITY)	15.69	28.06		45.19			267.05
WHITNEY (FORCE)	55.34	81.26	79.83	5.20	20.20	19.23	504.82

PROPOSED WET UTILITY OPTIONS

- Developer Needs vs 2013 BOPU Master Plan/ County/ City/ State Current Requirements / Needs
  - + Sewer
  - + Water
  - + Storm
    - × Detention



WET UTILITIES - SEWER

WHITNEY SANITARY BASIN SUMMARY

SERVICE LINE	HD AREA (AC.)	MD AREA (AC.)	LD AREA (AC.)	COMM AREA (AC.)	PARKS	SCHOOLS	TOTAL PEAK (gpm)
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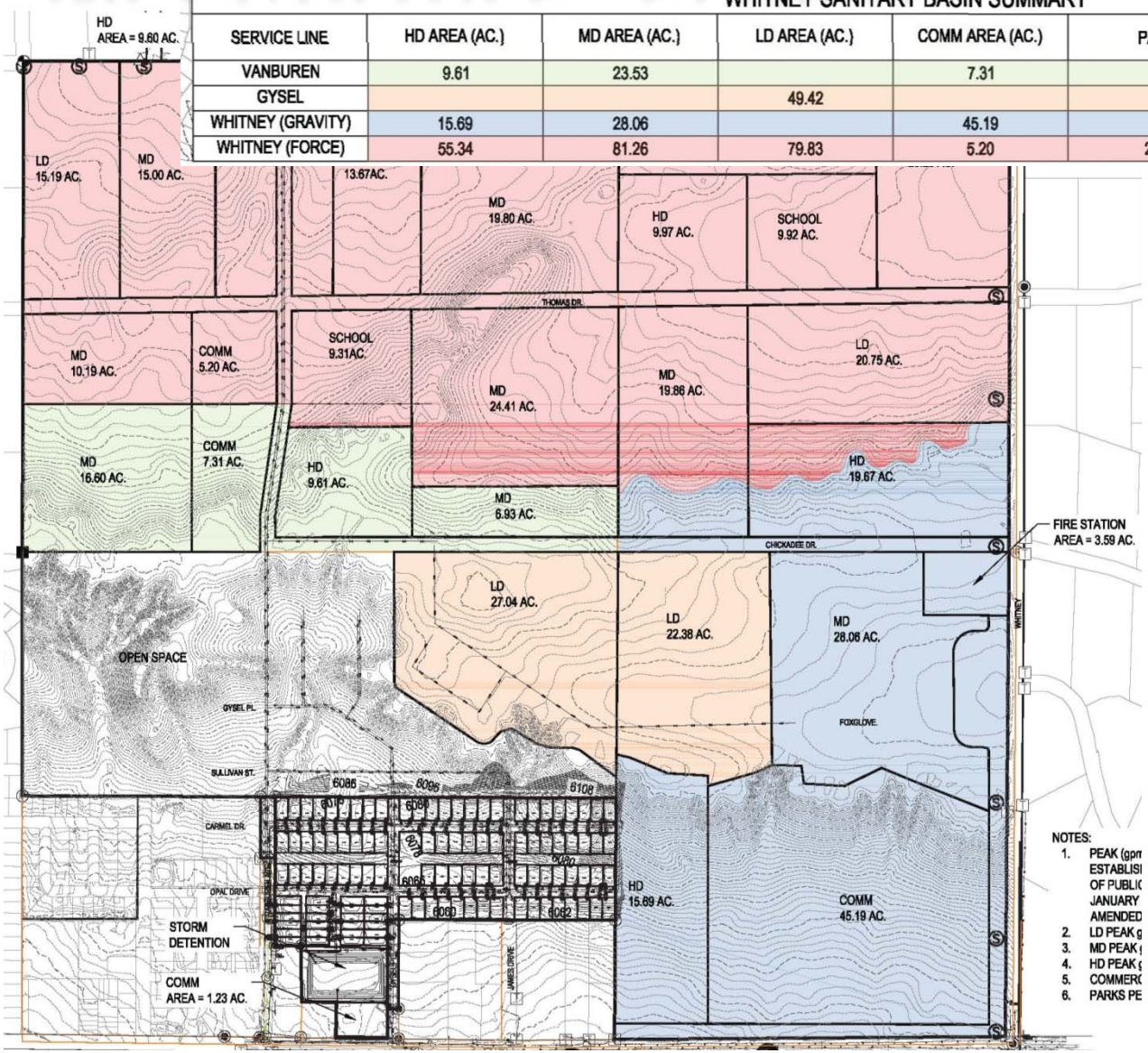
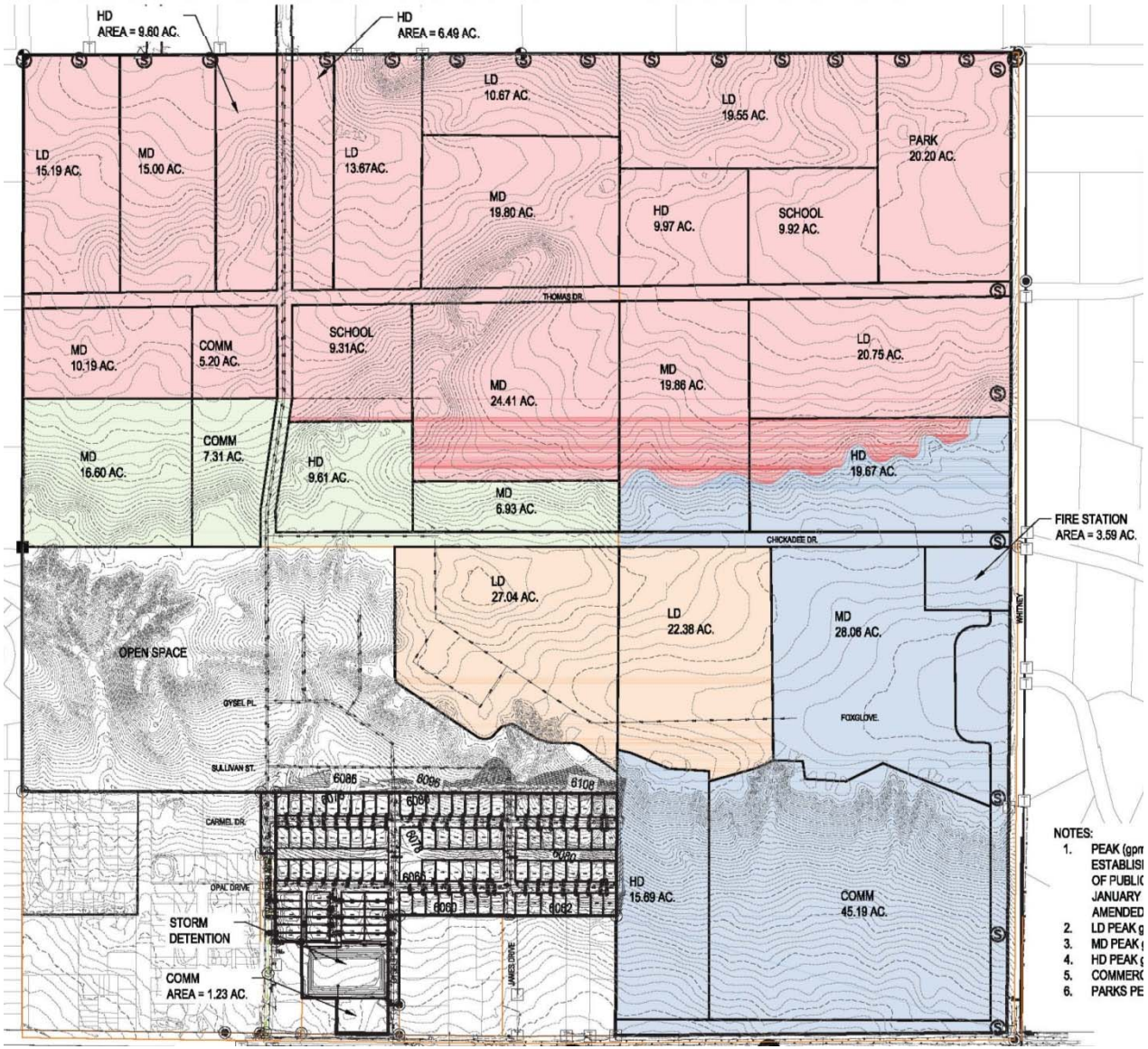


- 504.8 gpm peak 2040 (15”)
- Lift Station Force Main at Chickadee Road

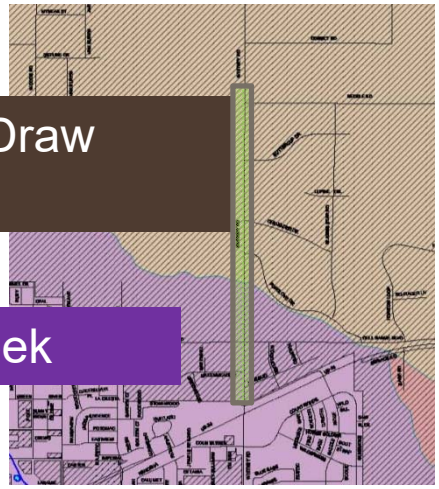
WET UTILITIES - WATER

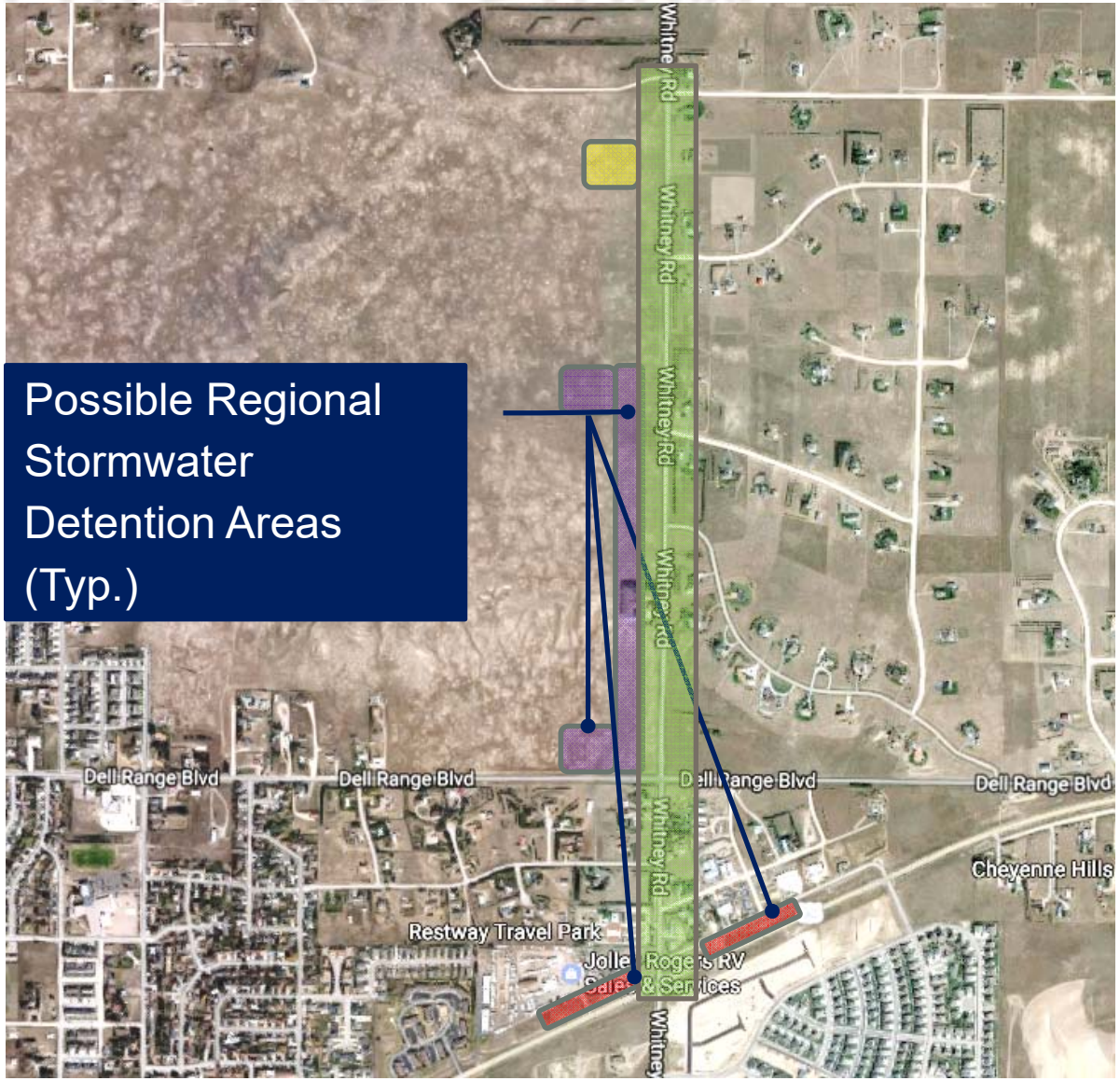


- Unknown
- Assume 12” for Looping and Fire Protection
- Long Term new Tank Connection?

PROPOSED WET UTILITIES - STORM

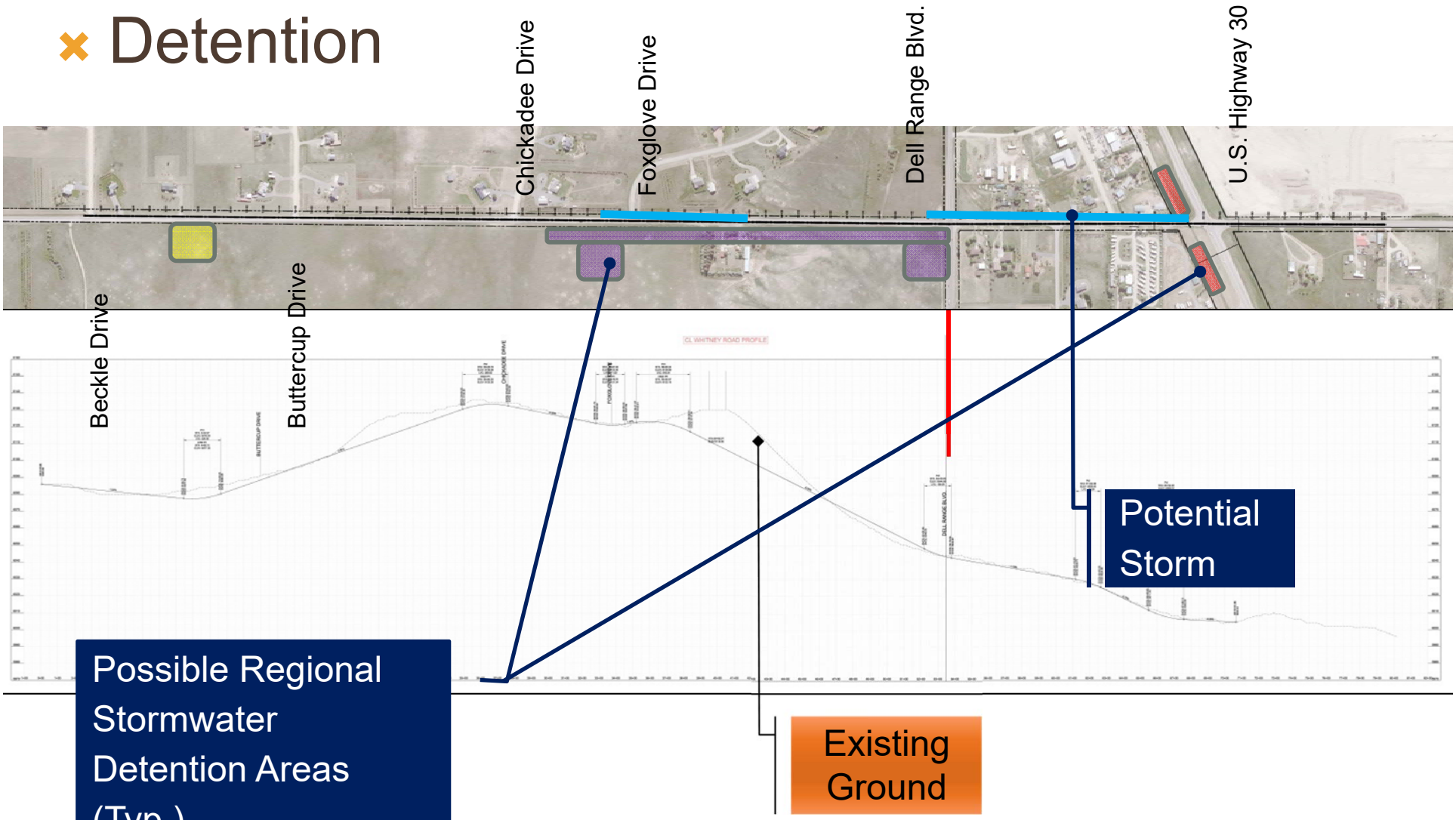
- Basins



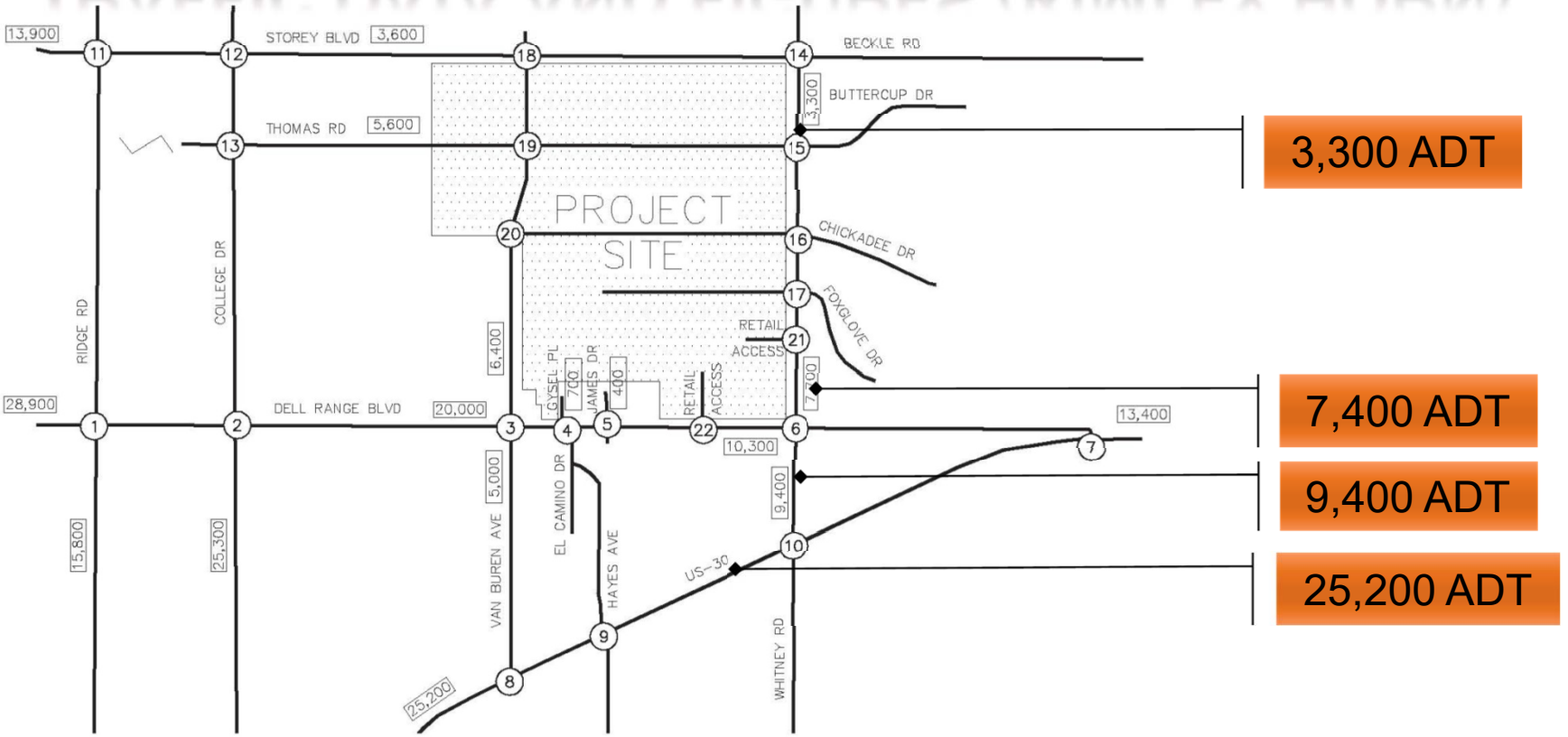


PROPOSED WET UTILIES –STORM

- Detention



TRAFFIC DATA AND FIGURES (KIMLEY HORN)



LEGEND

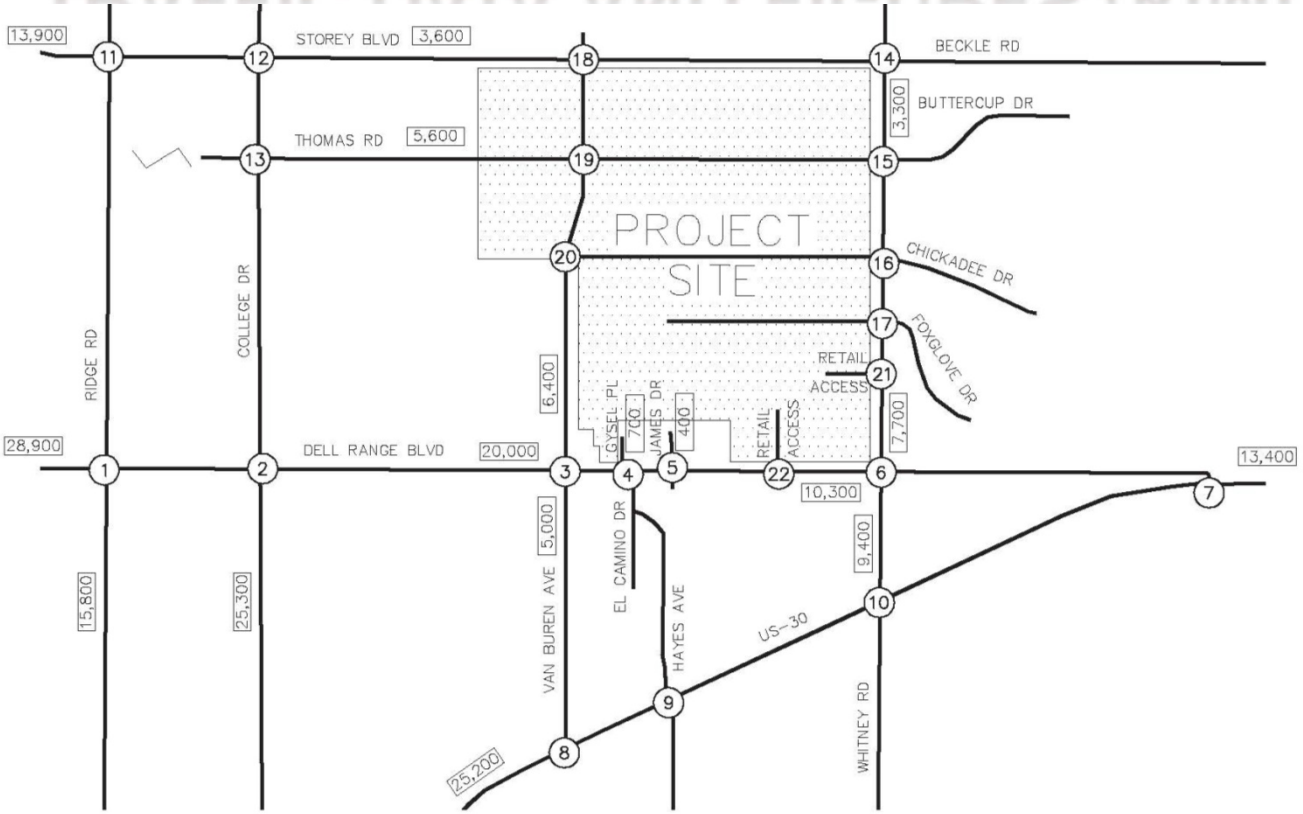
(X) Study Area Key Intersection

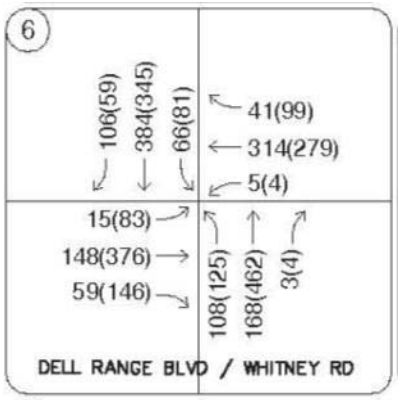
XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

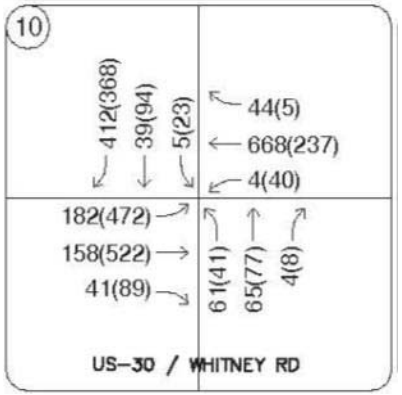
XX,X00 Estimated Daily Traffic Volume

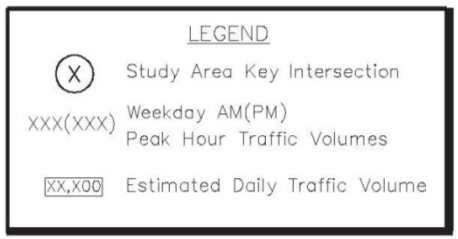
WHITNEY RANCH
2040 BACKGROUND PLUS PROJECT TRAFFIC VOLUMES

TRAFFIC DATA AND FIGURES (KIMLEY HORN)



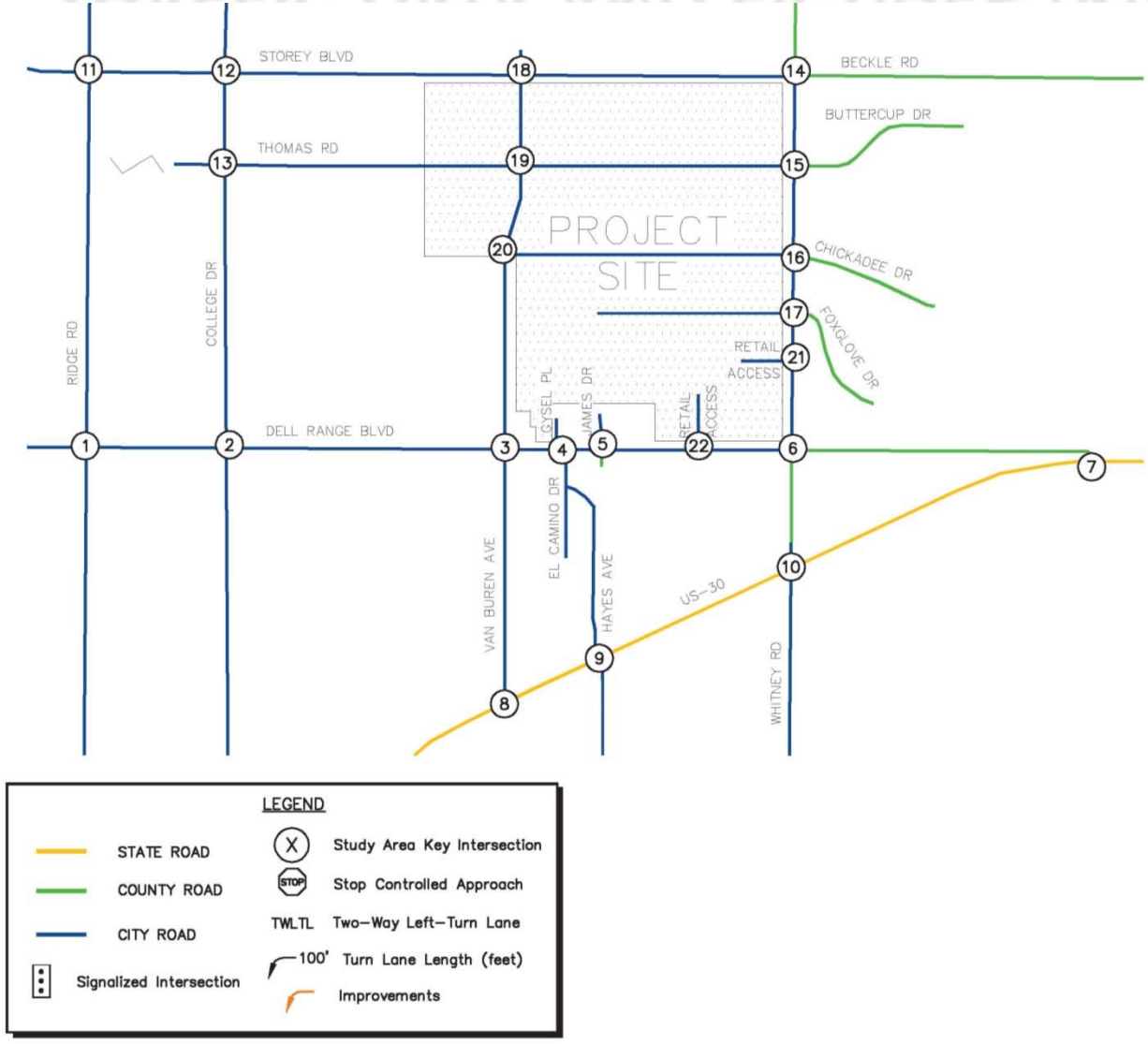


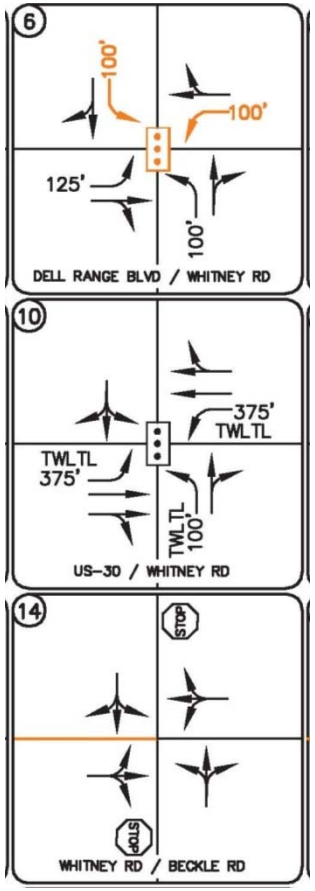




WHITNEY RANCH
2040 BACKGROUND PLUS PROJECT TRAFFIC VOLUMES

TRAFFIC DATA AND FIGURES (KIMLEY HORN)





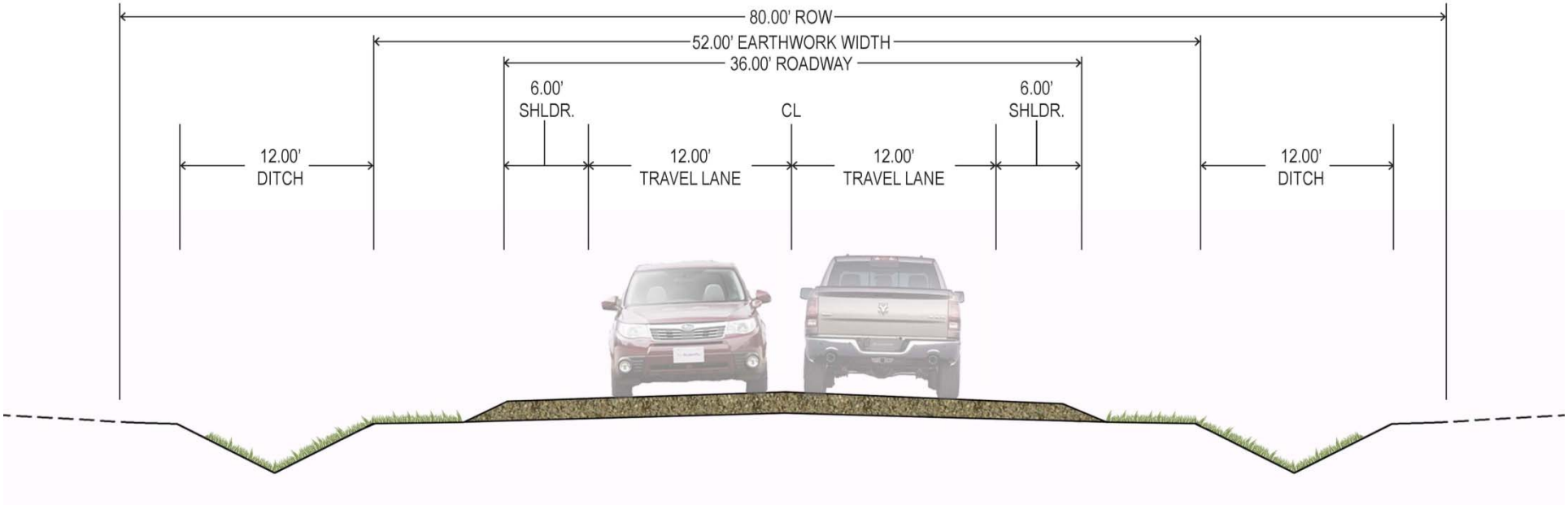
WHITNEY RANCH
2040 RECOMMENDED LANE CONFIGURATIONS AND CONTROL

ADDITIONAL NEEDS (STS)

- Lane Configuration(s)
- Queuing Analysis Recommendations
- Other?

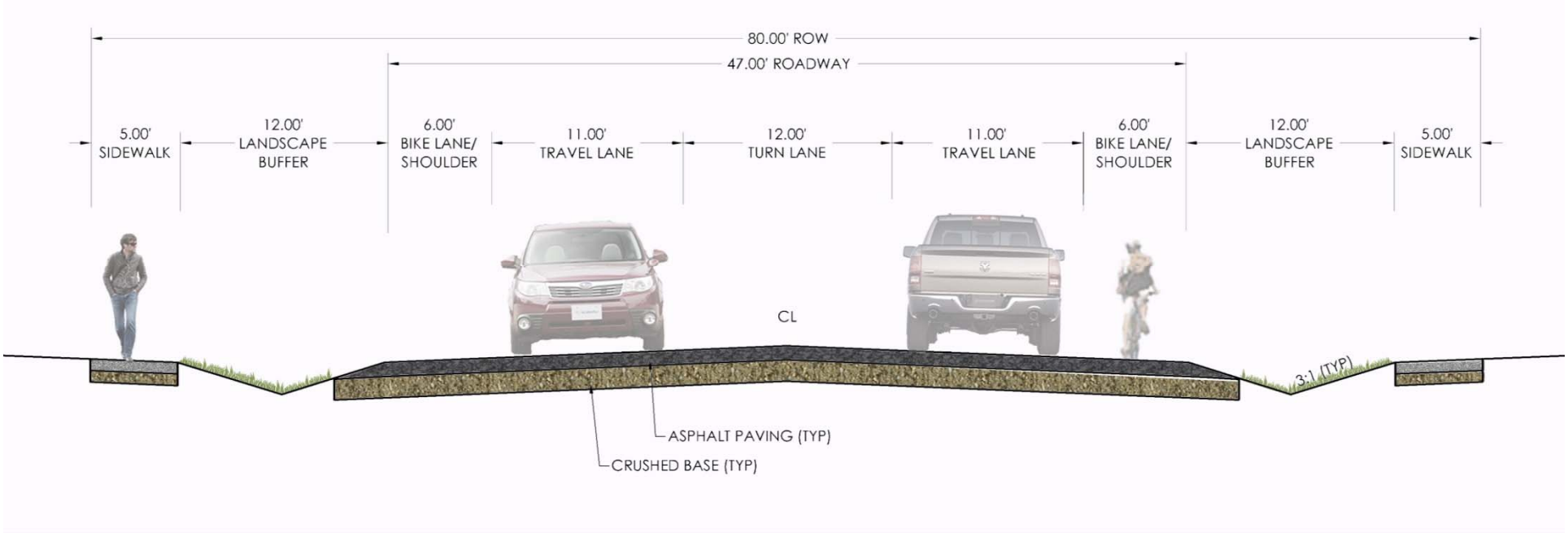
PRELIMINARY RECOMMENDED TYPICAL SECTIONS

- Beckel to Dell Range
  - Interim Rural 2 – Lane Roadway Typical Section



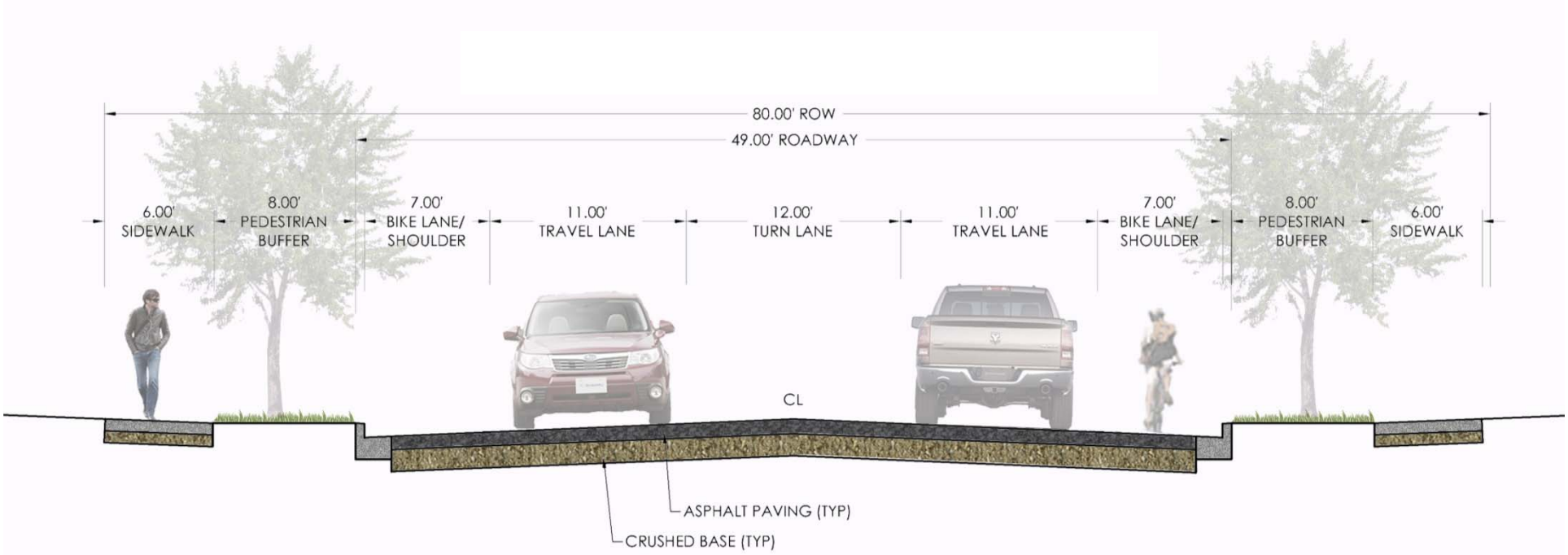
PRELIMINARY RECOMMENDED TYPICAL SECTIONS

- Beckel to Dell Range
  - Ultimate Rural 3 – Lane Roadway Typical Section



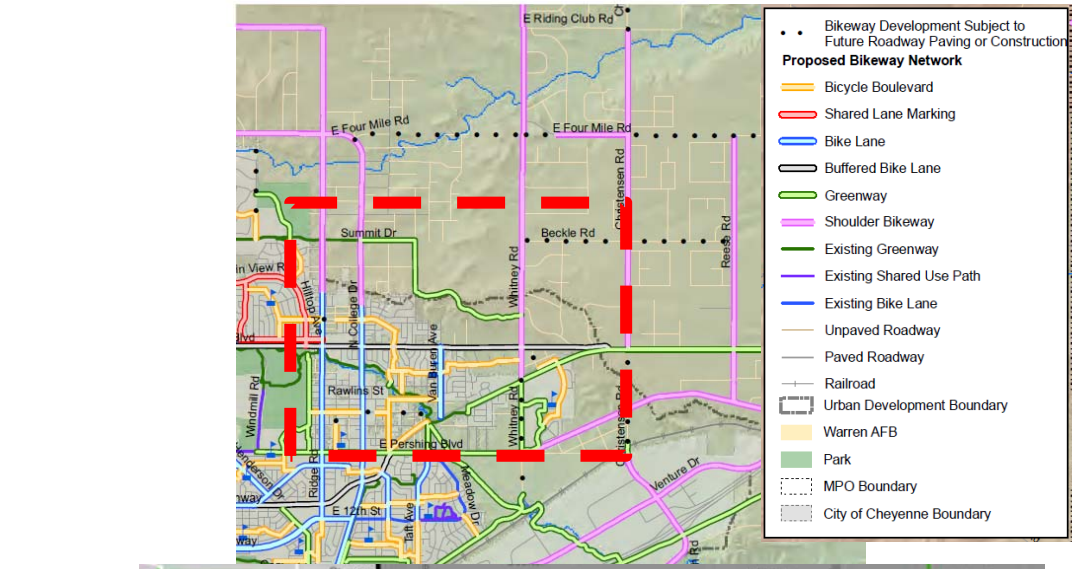
PRELIMINARY RECOMMENDED TYPICAL SECTIONS

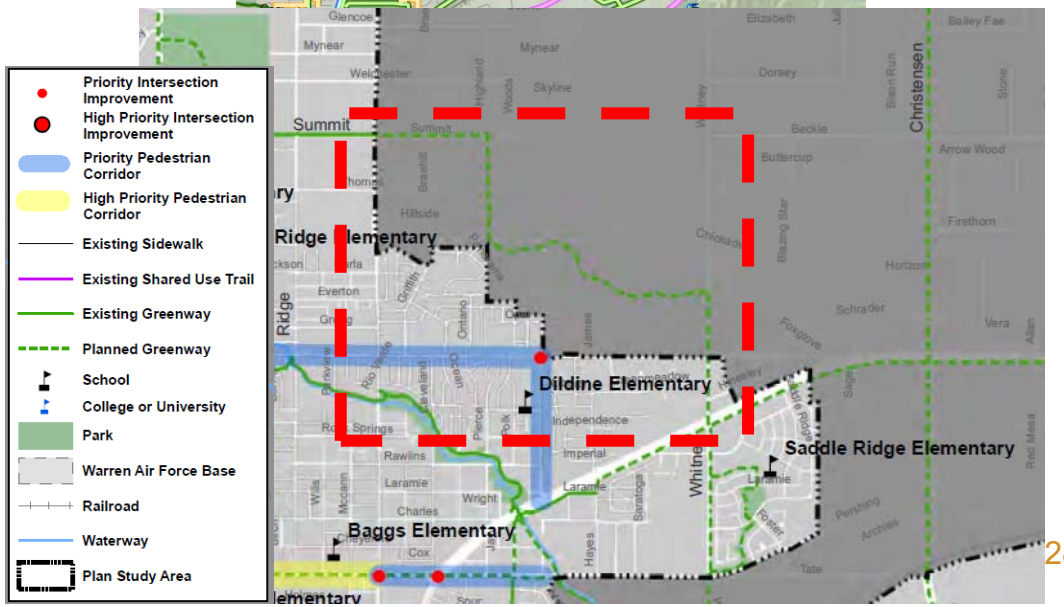
- Dell Range to U.S. 30
  - Urban 3 – Lane Roadway Typical Section



PEDESTRIAN AND BIKE OPTIONS

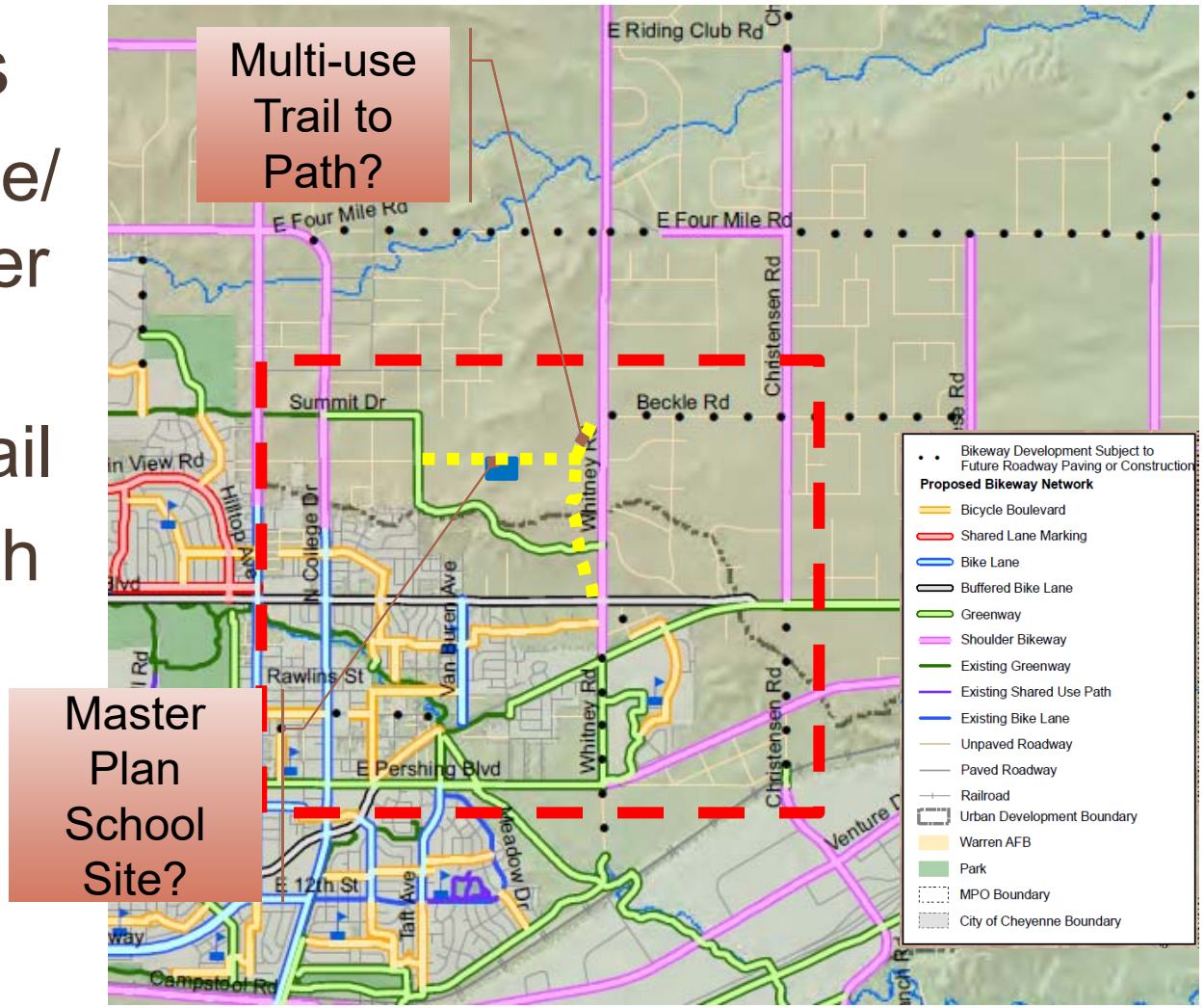
- Cheyenne On-street Bicycle Plan and Greenway Update, 2012
- Cheyenne Metropolitan Area Pedestrian Plan, 2010
- Other Options
  - On-street Bike/ Lane Shoulder
  - Trail or Additional Trail
  - Multi-use Path
  - Sidewalk



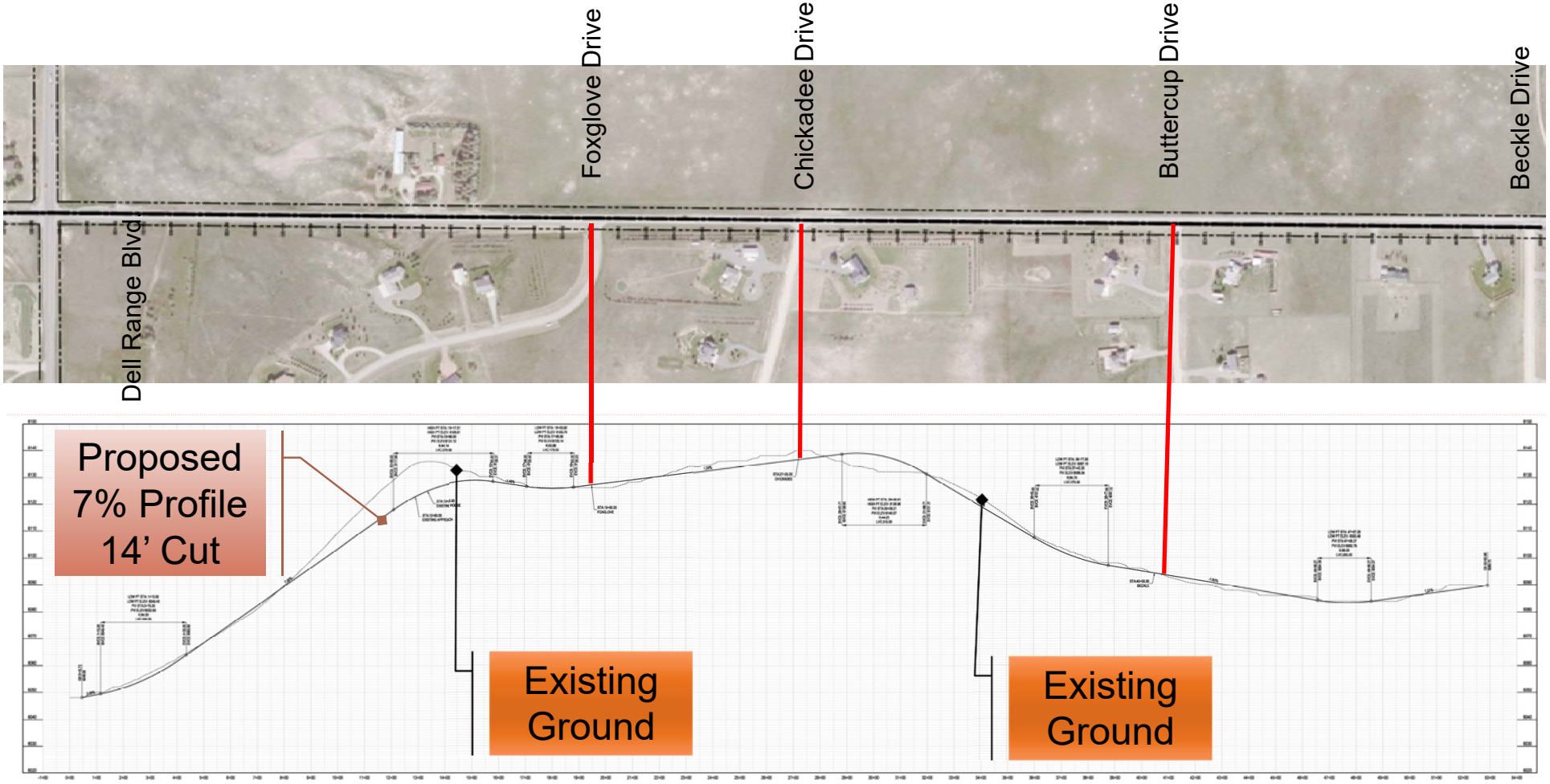


PEDESTRIAN AND BIKE OPTIONS

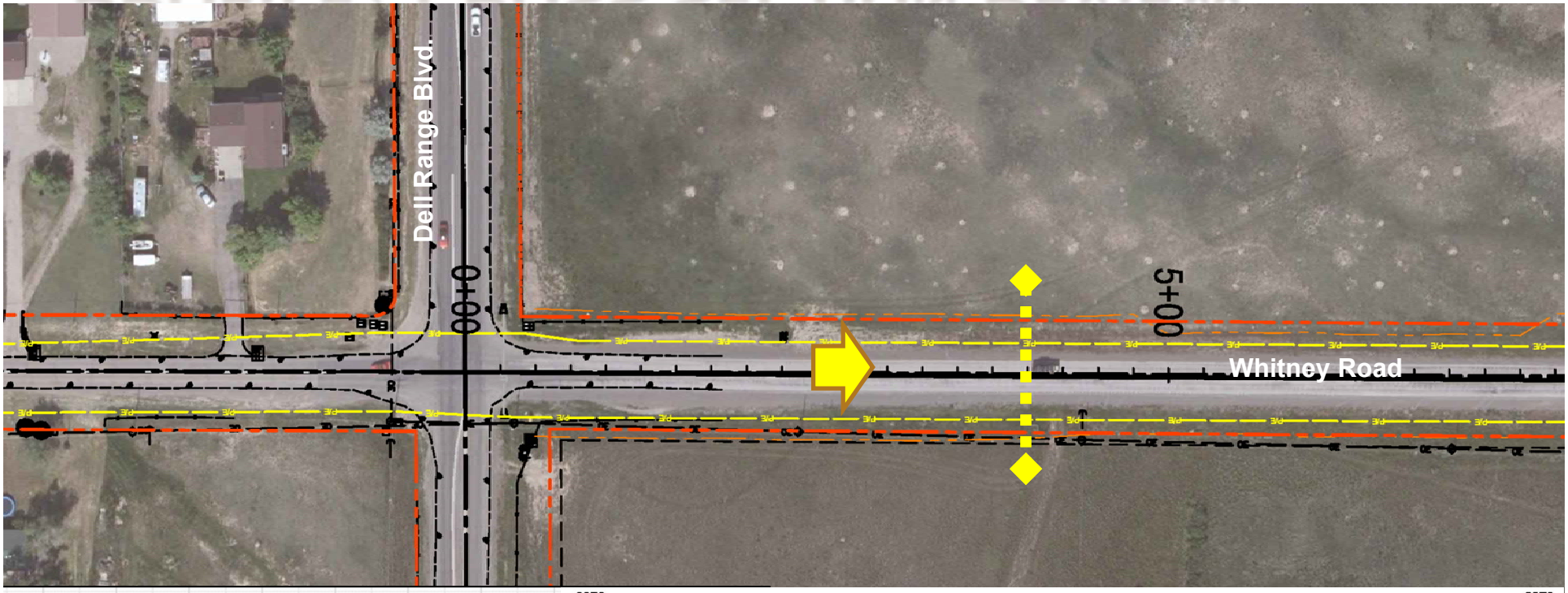
- Other Options
  - On-street Bike/ Lane Shoulder
  - Trail or Additional Trail
  - Multi-use Path
  - Sidewalk

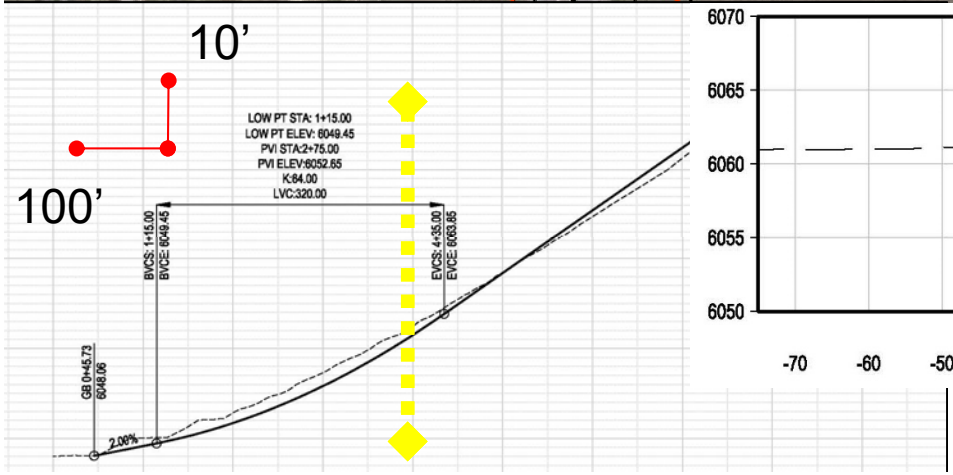


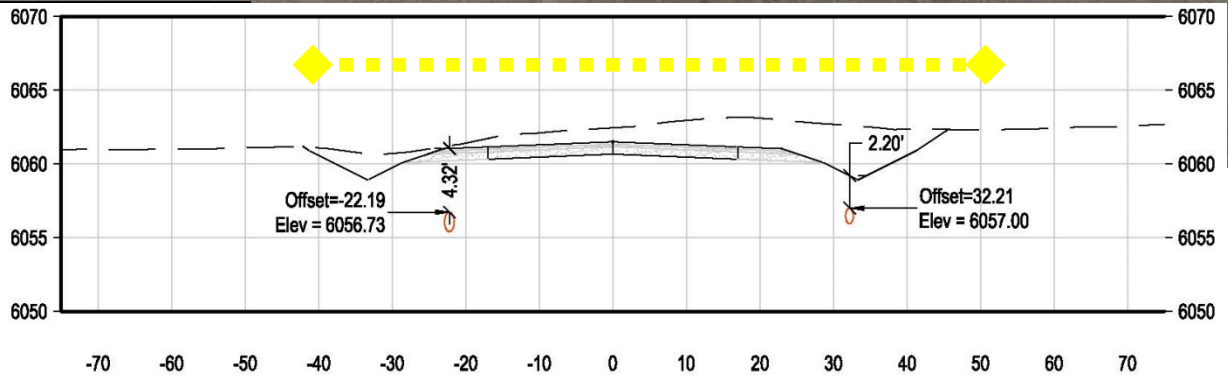
PROFILE REVIEW



PROFILE/ CROSS SECTION REVIEW







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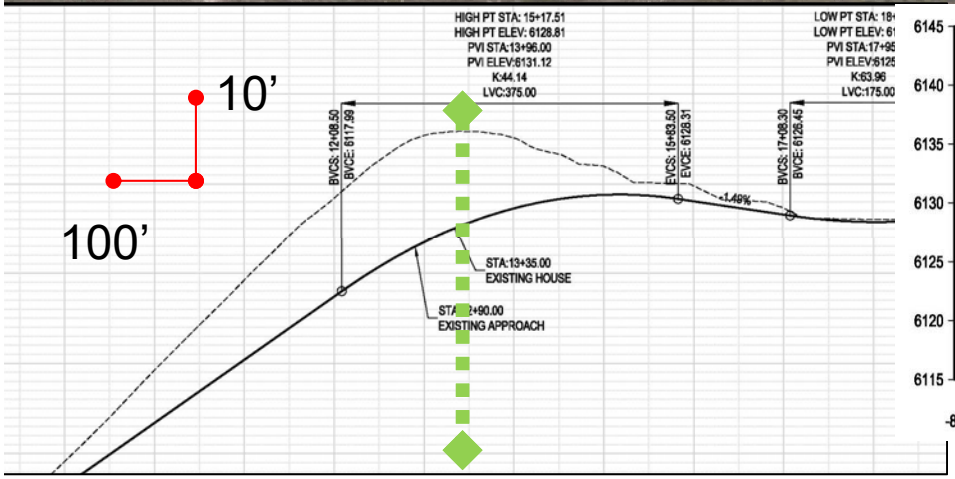

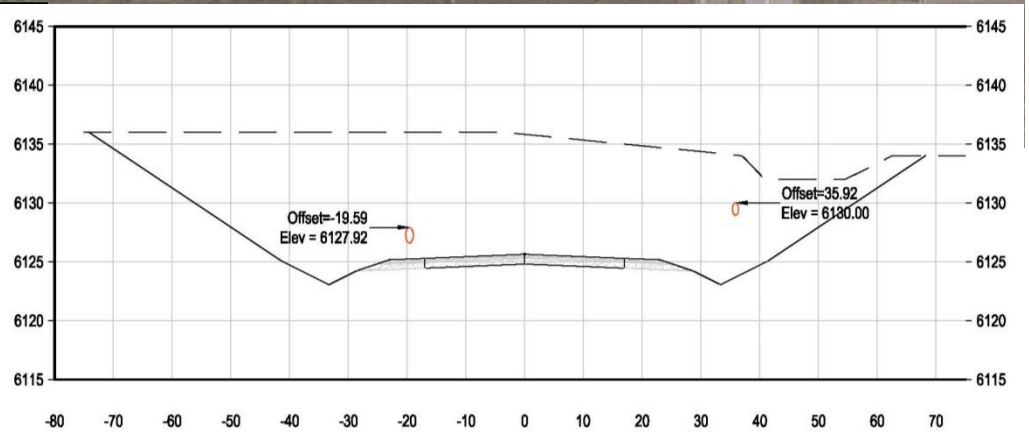

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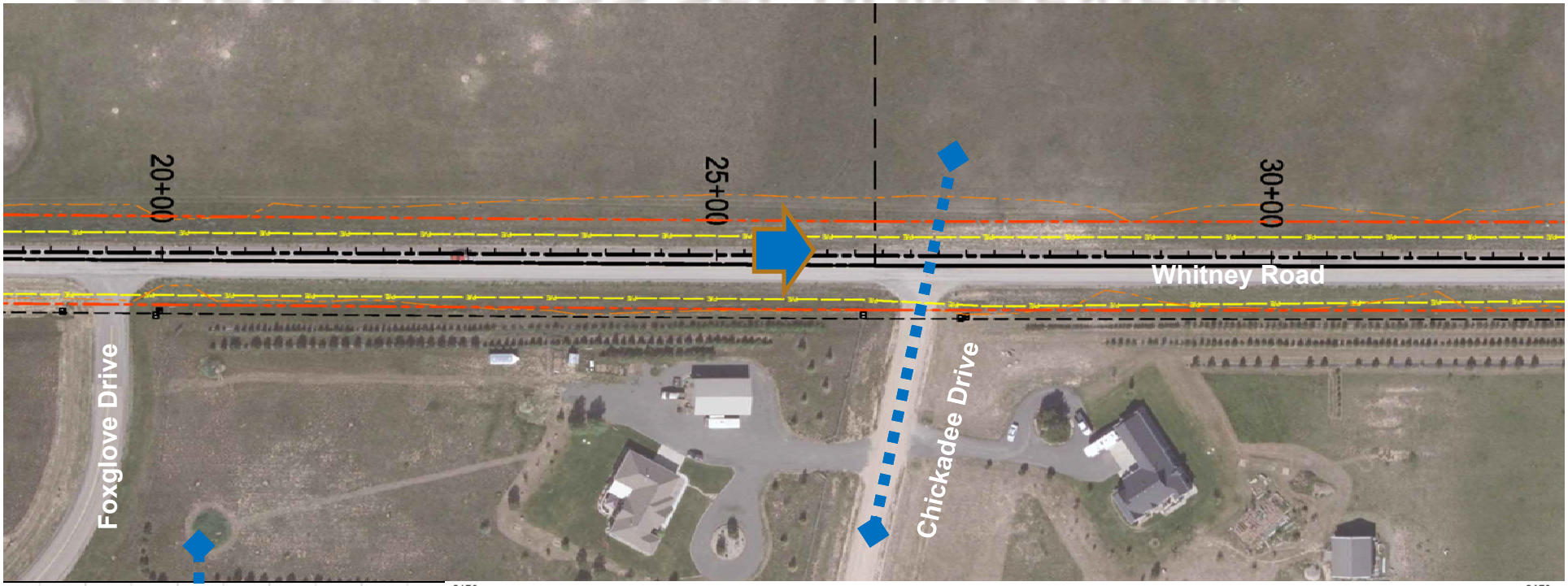
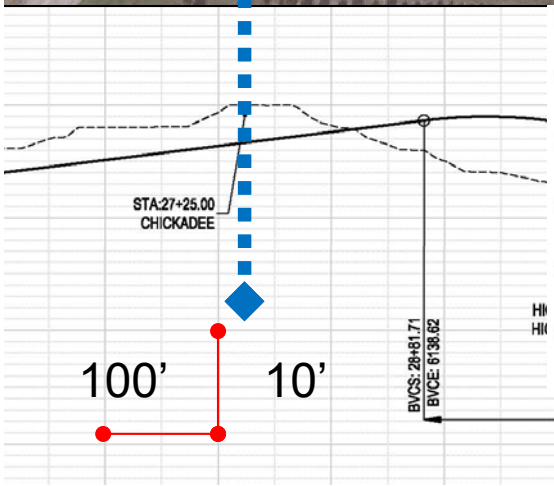
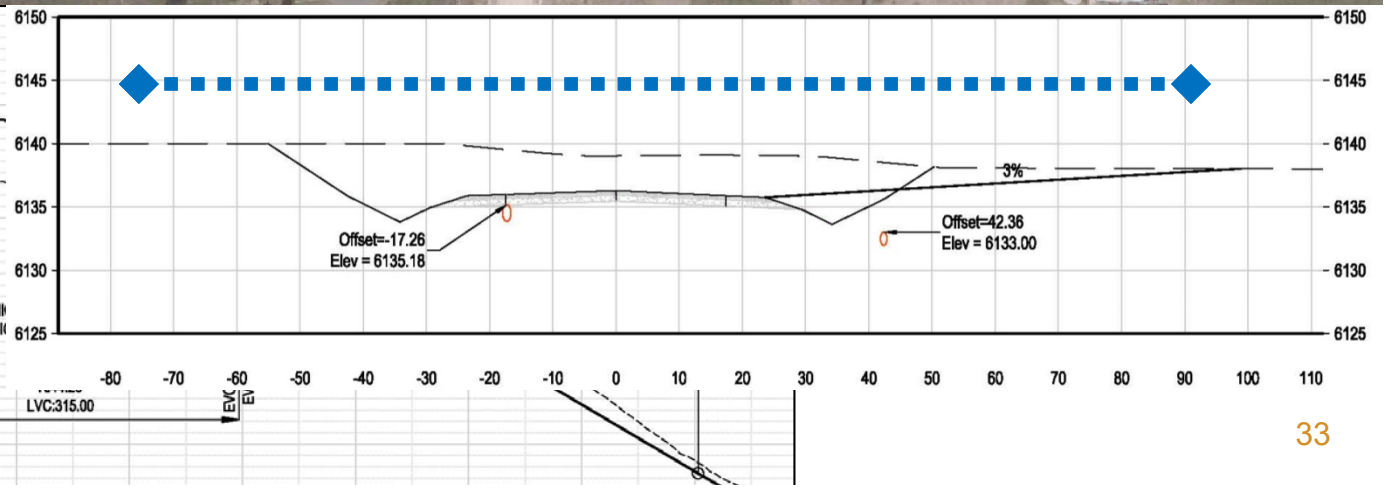






ROADWAY/ INTERSECTION CONCEPTS

- Signal Warrants
  - Dell Range Boulevard
    - Warranted by Year 2040 (based on Kimley Horn Study)
  - US 30
    - Signalize by Year 2022 (Signal warrant analysis not included in Kimley Horn Study)

CRASH DATA

- Intersection Crash Data (January, 2014 to September, 2017)

Whitney Road / US 30	
Type	**Number**
Angle	5
Rear End	3
Fixed Object	3
Total	**11**
Rate	**0.88**

Whitney Road / Dell Range Boulevard	
Type	**Number**
Angle	5
Rear End	0
Fixed Object	0
Total	**5**
Rate	**0.50**

Whitney Road / Beckle Road	
Type	**Number**
Angle	0
Rear End	1
Fixed Object	0
Total	**1**
Rate	**0.33**

Crash rates are expressed in crashes per million entering vehicles.

Severity

Property Damage	9
Injury	2
Fatality	0
Total	**11**

Property Damage	3
Injury	1
Fatality	1
Total	**5**

Property Damage	1
Injury	0
Fatality	0
Total	**1**

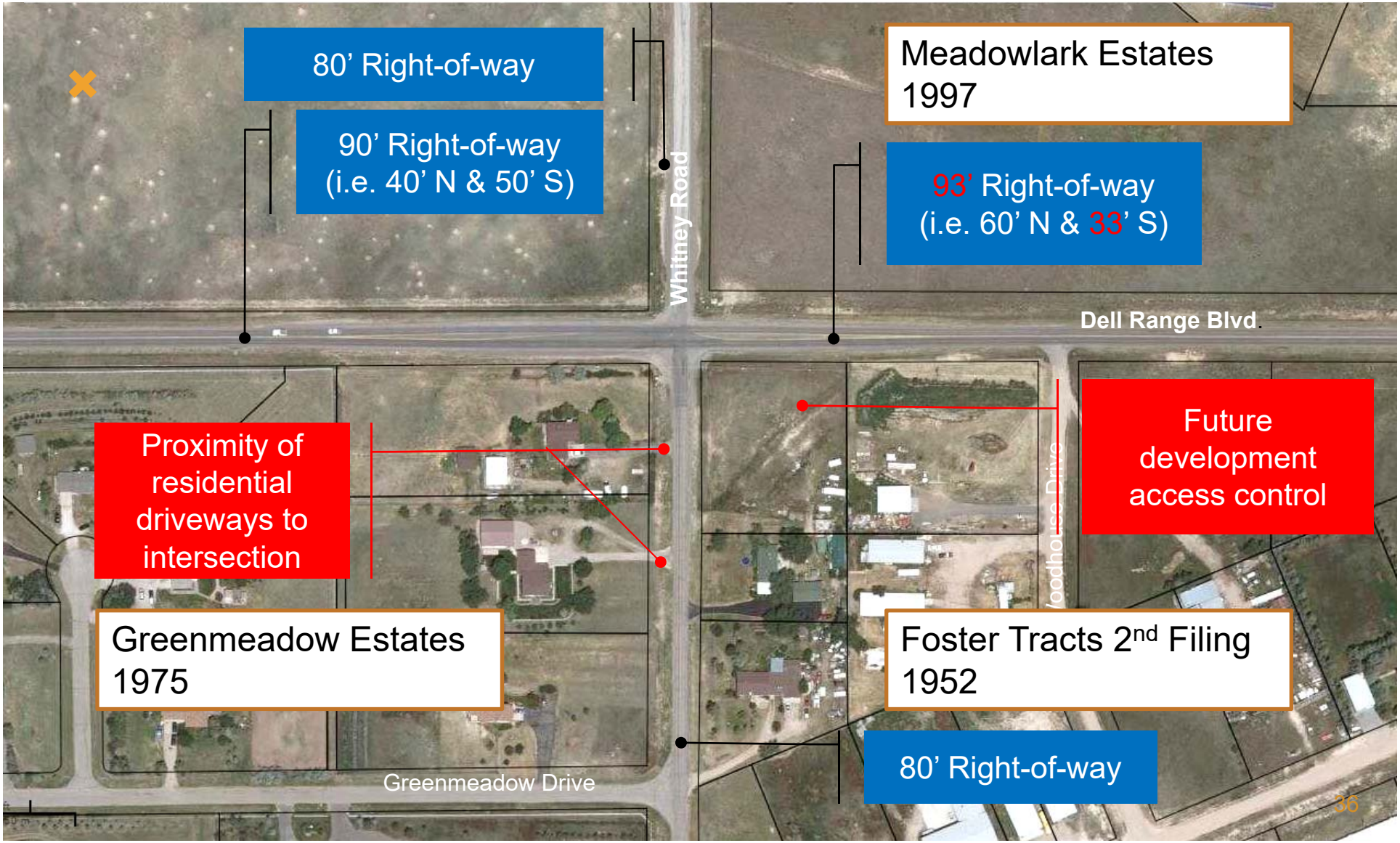
Cause

Failure to Yield ROW	5
Following too Closely	2
Speeding	1
Drove too Fast for Conditions	3
Total	11

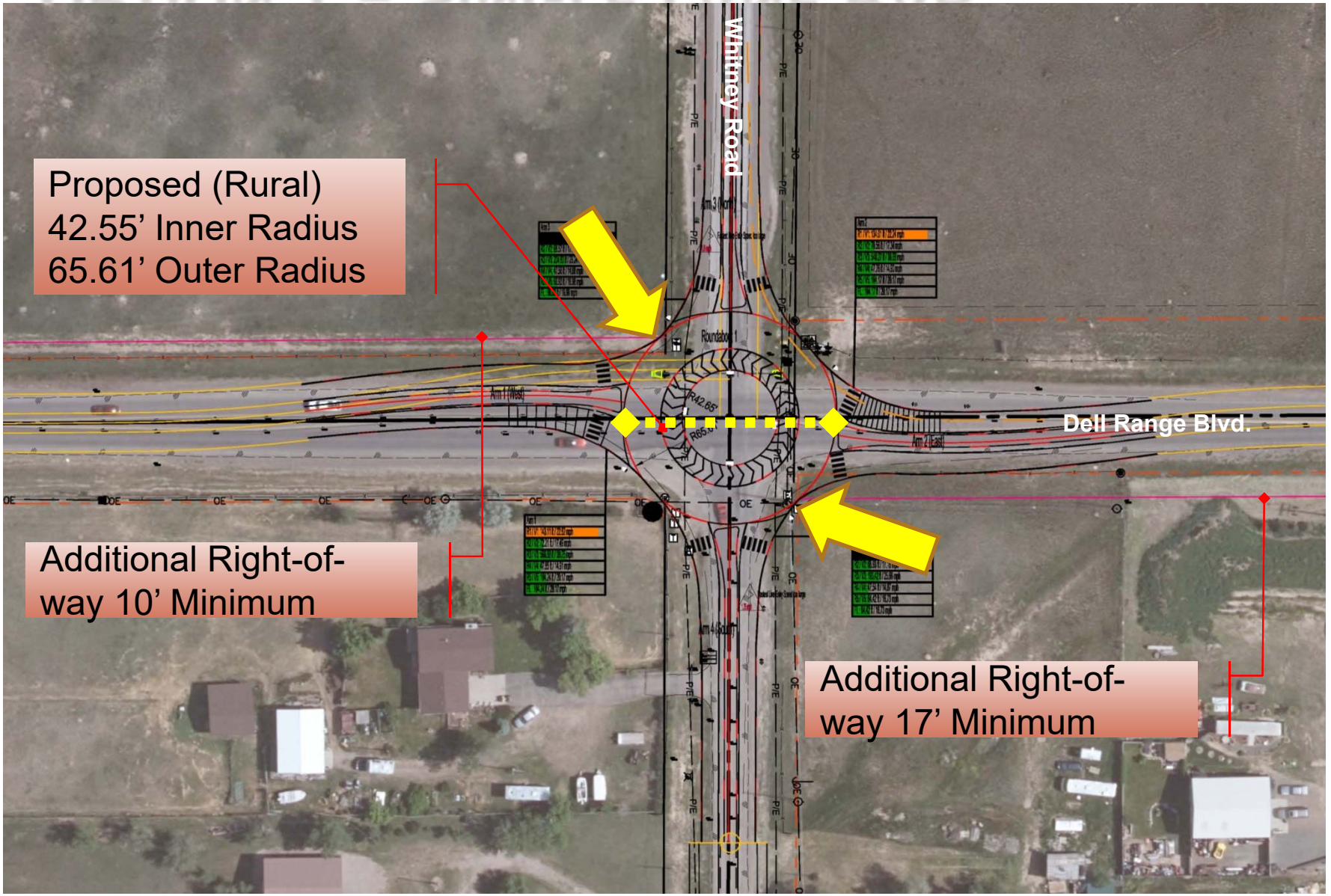
Failure to Yield ROW	5
Following too Closely	0
Speeding	0
Drove too Fast for Conditions	0
Total	5

Failure to Yield ROW	0
Following too Closely	1
Speeding	0
Drove too Fast for Conditions	0
Total	1

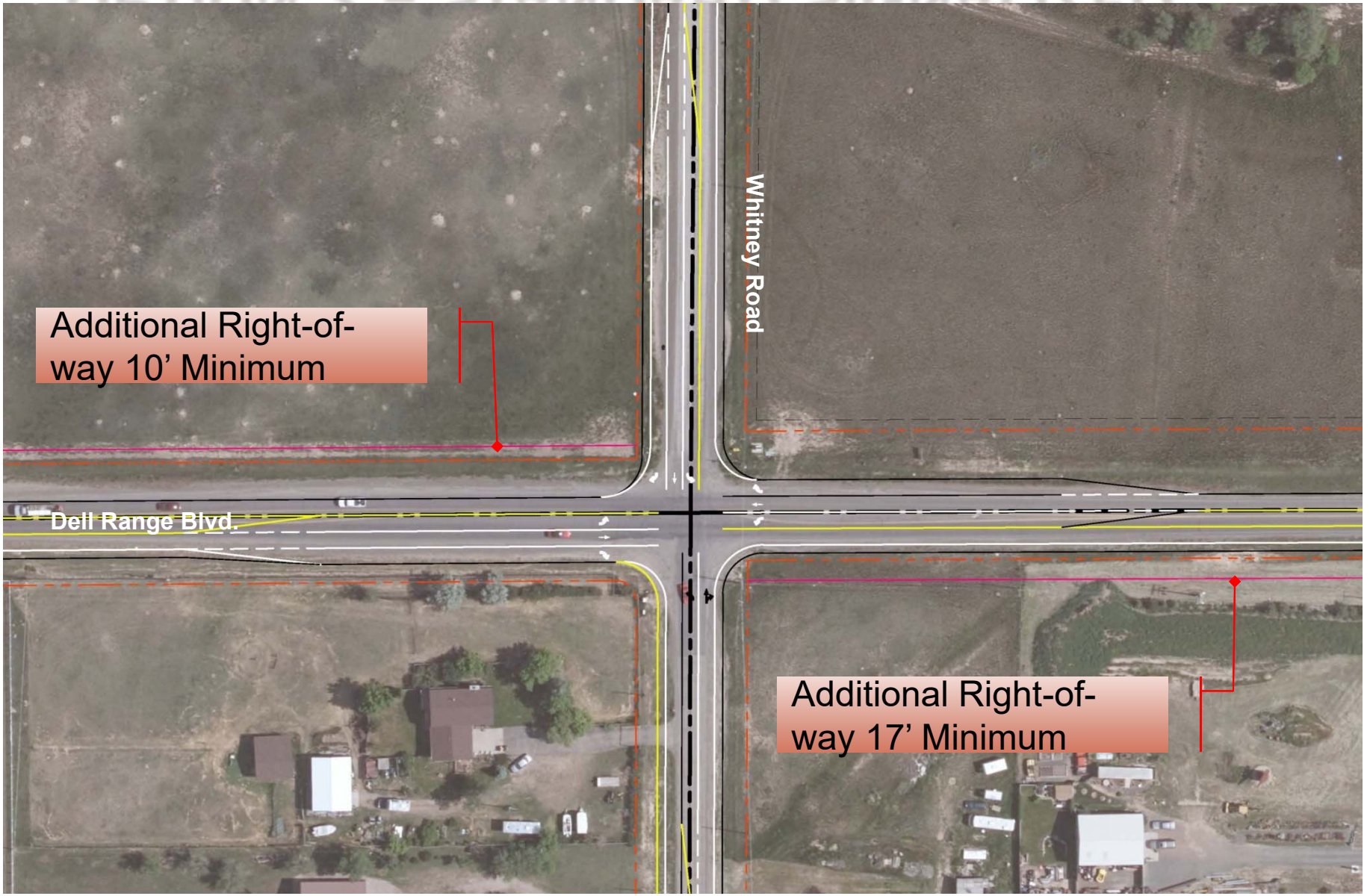
INTERSECTION WHITNEY AT DELL RANGE BLVD.



OPTION 1 – SINGLE LANE RAB



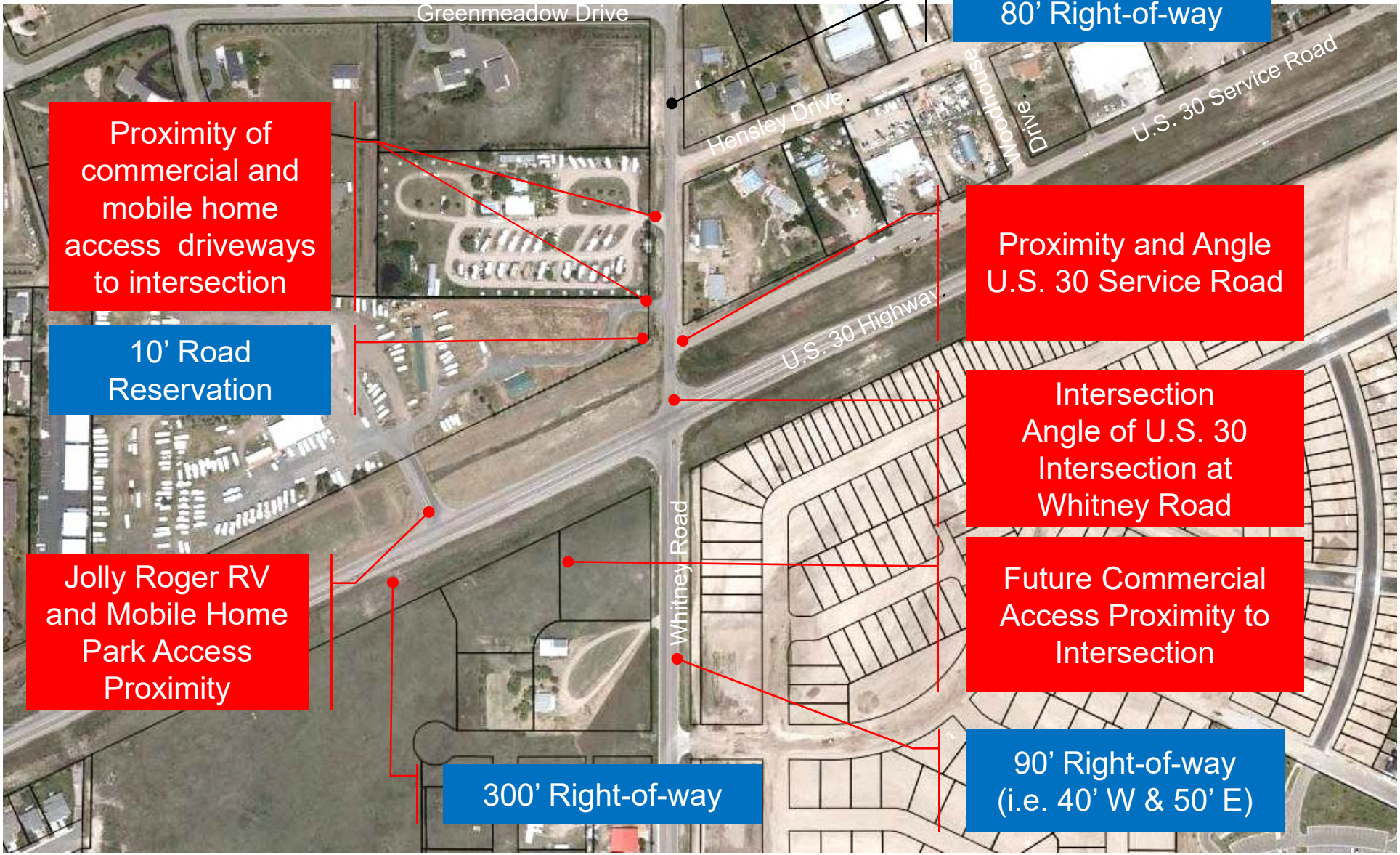
OPTION 2 – STANDARD SIGNALIZED



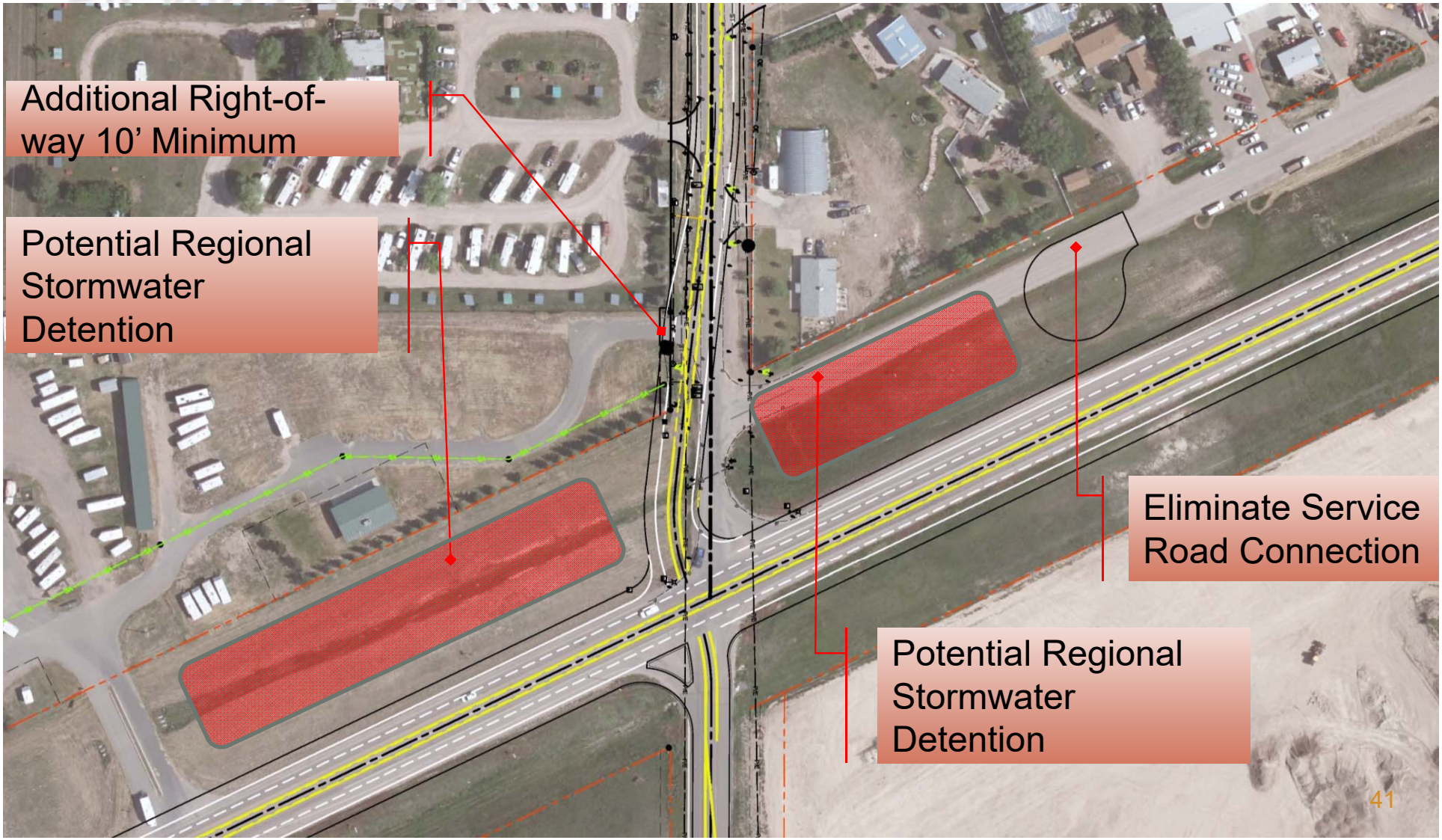
INTERIM OPTIONS - PHASING

- Transverse Rumble Strips – Northbound and Southbound
- Wide Transverse Pavement Markings
  - Thermoplastic Pavement Markings or conventional painting
- Flashing Beacon – Stop Control
- Intersection Down Lighting on Existing Power Poles or Independent Pole

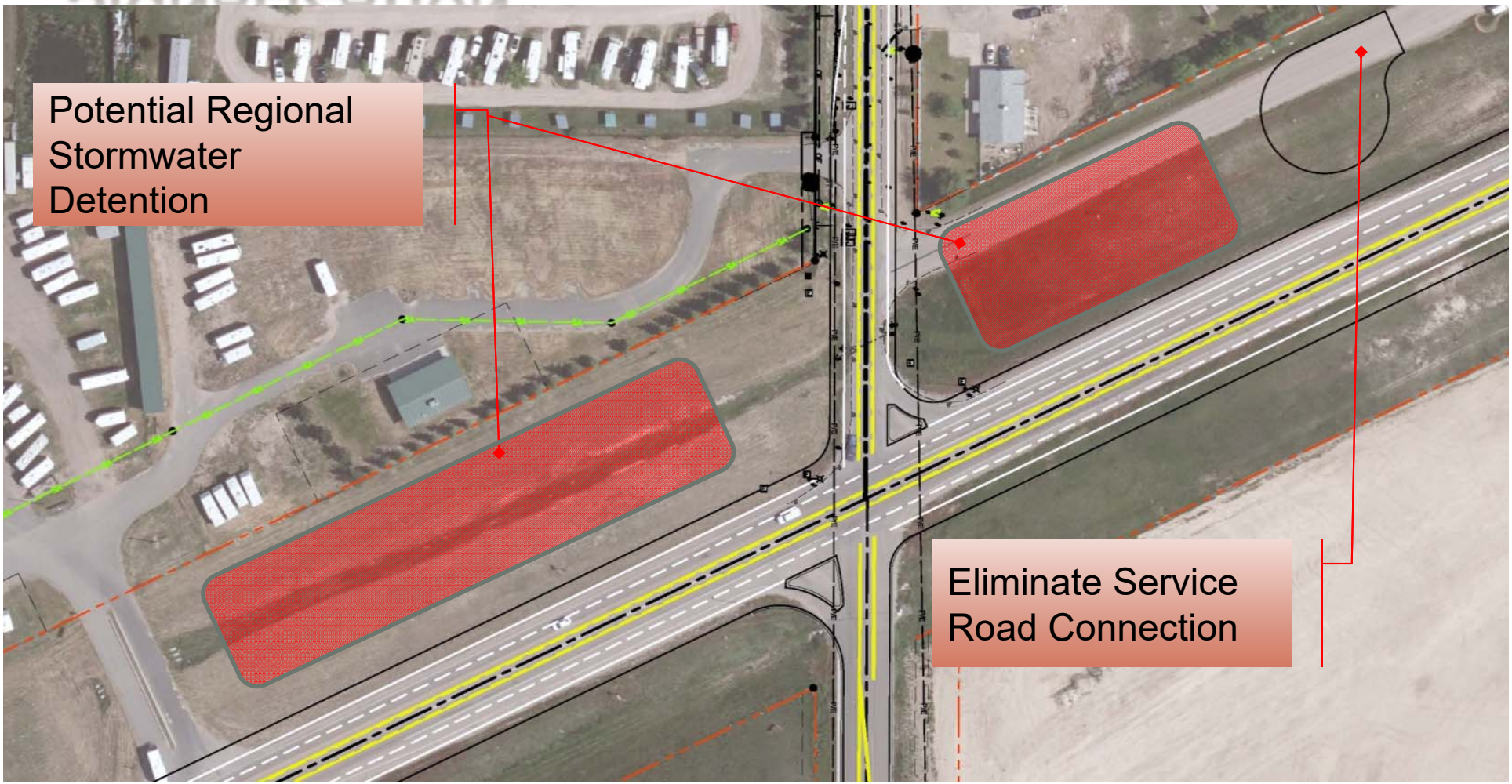
WHITNEY ROAD AT U.S. 30



OPTION 1 – REALIGN SKEWED INTERSECTION SIGNALIZATION



OPTION 2 – ULTIMATE WIDENING SIGNALIZATION



INTERIM OPTIONS - PHASING

- Signalization w/ Future Arm Lengths and Locations
- Channelized Islands
- Eliminate Service Road Connection
- Regional Stormwater Detention Ponds

Traffic Impact Study

Whitney Ranch

Cheyenne, Wyoming

Prepared for:

AVI, PC

Kimley»Horn

T R A F F I C I M P A C T S T U D Y

Whitney Ranch

Cheyenne, Wyoming

Prepared for
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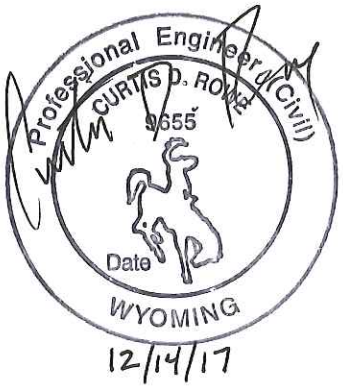

December 2017

TABLE OF CONTENTS

TABLE OF CONTENTS i
APPENDICES ii
LIST OF FIGURES ii
LIST OF TABLES iii
1.0 EXECUTIVE SUMMARY 1
2.0 INTRODUCTION 6
3.0 EXISTING AND FUTURE CONDITIONS 9
3.1 Existing Roadway Network 9
3.2 Future Roadway Network 13
3.3 Existing Study Area 14
3.4 Existing Traffic Volumes 14
3.5 Unspecified Development Traffic Growth 14
4.0 PROJECT TRAFFIC CHARACTERISTICS 19
4.1 Trip Generation 19
4.2 Trip Distribution 20
4.3 Traffic Assignment 20
4.4 Total (Background Plus Project) Traffic 20
5.0 TRAFFIC OPERATIONS ANALYSIS 27
5.1 Analysis Methodology 27
5.2 Key Intersection Operational Analysis 28
5.3 Queuing Analysis 50
5.4 Signal Warrant Analysis 53
5.5 Pedestrian and Transit Connections 64
5.6 Improvement Summary 64
6.0 CONCLUSIONS AND RECOMMENDATIONS 67

APPENDICES

Appendix A – Intersection Count Sheets
Appendix B – City of Cheyenne Transportation Plan Traffic Growth
Appendix C – Trip Generation Calculations
Appendix D – Intersection Analysis Worksheets
Appendix E – Queuing Analysis Worksheets
Appendix F – Conceptual Land Use Plan

LIST OF FIGURES

Figure 1 – Vicinity Map....8
Figure 2 – Existing Lanes and Control....15
Figure 3 – Existing Traffic Volumes....16
Figure 4 – 2022 Background Traffic Volumes....17
Figure 5 – 2040 Background Traffic Volumes....18
Figure 6 – 2022 Project Trip Distribution....21
Figure 7 – 2040 Project Trip Distribution....22
Figure 8 – 2022 Project Traffic Assignment....23
Figure 9 – 2040 Buildout Project Traffic Assignment....24
Figure 10 – 2022 Background Plus Project Traffic Volumes....25
Figure 11 – 2040 Background Plus Project Traffic Volumes....26
Figure 12 – Four Hour Warrant – Dell Range Boulevard and Van Buren Avenue....59
Figure 13 – Four Hour Warrant – Whitney Road and Dell Range Boulevard....60
Figure 14 – Four Hour Warrant – Storey Boulevard and Ridge Road....61
Figure 15 – Four Hour Warrant – College Drive and Storey Boulevard....62
Figure 16 – Four Hour Warrant – College Drive and Thomas Road....63
Figure 17 – 2022 Recommended Lane Configurations and Control....65
Figure 18 – 2040 Recommended Lane Configurations and Control....66

LIST OF TABLES

Table 1 – Whitney Ranch Phase 1 (2022) Project Traffic Generation....19
Table 2 – Whitney Ranch Buildout Project Traffic Generation....20
Table 3 – Level of Service Definitions....27
Table 4 – Dell Range Boulevard and Ridge Road (#1) LOS Results....29
Table 5 – Dell Range Boulevard and College Drive (#2) LOS Results....30
Table 6 – Dell Range Boulevard and Van Buren Avenue (#3) LOS Results....31
Table 7 – Dell Range Boulevard and Gysel Place/El Camino Drive (#4) LOS Results....32
Table 8 – Dell Range Boulevard and James Drive (#5) LOS Results....33
Table 9 – Whitney Road and Dell Range Boulevard (#6) LOS Results....35
Table 10 – Dell Range Boulevard and US-30 (#7) LOS Results....36
Table 11 – US-30 and Van Buren Avenue (#8) LOS Results....37
Table 12 – US-30 and Hayes Avenue (#9) LOS Results....38
Table 13 – US-30 and Whitney Road (#10) LOS Results....39
Table 14 – Storey Boulevard and Ridge Road (#11) LOS Results....40
Table 15 – Storey Boulevard and College Drive (#12) LOS Results....41
Table 16 – College Drive and Thomas Road (#13) LOS Results....42
Table 17 – Whitney Road and Beckle Road (#14) LOS Results....43
Table 18 – Whitney Road and Buttercup Drive (#15) LOS Results....44
Table 19 – Whitney Road and Chickadee Drive (#16) LOS Results....45
Table 20 – Whitney Road and Foxglove Drive (#17) LOS Results....46
Table 21 – Storey Boulevard and Van Buren Avenue (#18) LOS Results....47
Table 22 – Van Buren Avenue and Thomas Road (#19) LOS Results....48
Table 23 – Van Buren Avenue and Chickadee Drive (#20) LOS Results....48
Table 24 – Whitney Road and Commercial Access (#21) LOS Results....49
Table 25 – Dell Range Boulevard and Commercial Access (#22) LOS Results....49
Table 26 – Queuing Analysis Results and Recommendations....50

1.0 EXECUTIVE SUMMARY

Whitney Ranch, a new residential community with supporting neighborhood retail, is proposed to be located on the northwest corner of the Whitney Road and Dell Range Boulevard intersection in Cheyenne, Wyoming. At full build out, the project is proposed to include approximately 1,293 single-family detached homes, 913 condominiums/townhouses, two elementary schools, and 567,325 square feet of retail use. It is expected that construction of Whitney Ranch will be developed in phases with the first phase, as studied herein to be Filings 1 and 2, being completed in 2022. The remainder of the project will develop in approximately twenty years. The first phase is expected to include 232 single-family detached homes and 24 condominiums/townhomes. Analysis was therefore conducted for the 2022 short term horizon, as well as the 2040 long-term twenty-year planning horizon.

The purpose of this study is to identify project traffic generation characteristics, to identify potential project traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts. The following intersections, labeled intersection number 1-22 to correspond with the figures, were incorporated into this traffic study in accordance with the City of Cheyenne standards and Wyoming Department of Transportation (WYDOT) requirements:

1. Dell Range Boulevard and Ridge Road
2. Dell Range Boulevard and College Drive
3. Dell Range Boulevard and Van Buren Avenue
4. Dell Range Boulevard and El Camino/Gysel Place
5. Dell Range Boulevard and James Drive
6. Dell Range Boulevard and Whitney Road
7. Dell Range Boulevard and US-30
8. US-30 and Van Buren Avenue
9. US-30 and Hayes Avenue
10. US-30 and Whitney Road
11. Storey Boulevard and Ridge Road
12. Storey Boulevard and College Drive
13. College Drive and Thomas Road
14. Whitney Road and Beckle Road

15. Whitney Road and Buttercup Drive
16. Whitney Road and Chickadee Drive
17. Whitney Road and Foxglove Drive
18. Storey Boulevard and Van Buren Avenue (Future)
19. Van Buren Avenue and Thomas Road (Future)
20. Van Buren Avenue and Chickadee Drive (Future)
21. Whitney Road Commercial Access (Future)
22. Dell Range Boulevard Commercial Access (Future)

Regional access will be provided by Interstate 25 (I-25), Interstate 80 (I-80), and US-85. Primary access to the site will be provided by Whitney Road, Dell Range Boulevard, Storey Boulevard, and Van Buren Avenue. Direct access to proposed development will be provided by accesses along Dell Range Boulevard including Gysel Place, James Drive, and Commercial Access while access will also be provided along Whitney Road with Buttercup Drive/Thomas Road, Chickadee Drive, Foxglove Drive, and Commercial Access. Internal future access will also be provided along Van Buren Avenue with Chickadee Drive as well as Thomas Road.

Whitney Ranch at full buildout is anticipated to generate approximately 26,869 weekday daily trips with 1,983 of these trips occurring during the morning peak hour and 3,444 trips occurring during the afternoon peak hour. During the first phase, which is anticipated to include Filings 1 and 2, the project is expected to generate approximately 2,464 daily trips with 188 trips occurring during the AM peak hour and 243 trips occurring during PM peak hour.

Based on the analysis presented in this report, Kimley-Horn believes the proposed Whitney Ranch development will be successfully incorporated into the existing and future roadway network. The existing traffic volume analysis, proposed project development, and expected future traffic volumes resulted in the following conclusions and recommendations:

2022 Phase 1 Traffic Condition Improvements

- The intersection of Dell Range Boulevard and College Drive (#2) should be improved to provide two eastbound through lanes. The existing pork chop raised island could be reconstructed to allow for the second through lane through the signalized intersection to then taper to a single eastbound through lane further east using the existing transition.

- The Dell Range Boulevard and Van Buren Avenue intersection (#3) should be signalized, and the northbound and southbound approaches should be designated to provide separate 100-foot left turn lanes

- The northbound approach to the intersection of Dell Range Boulevard and Whitney Road (#6) should be improved to provide a 100-foot separate left turn lane.

- Gysel Place is recommended to be a paved roadway from the intersection with Dell Range Boulevard to provide paved access to the project site upon completion of the first phase of development.

- It is understood that WYDOT is improving US-30 to include two through lanes in each direction throughout the study area. Likewise, the US-30 intersections with Dell Range Boulevard, Van Buren Avenue, Hayes Avenue, and Whitney Road are anticipated to be signalized.

2040 Long-Term Horizon Traffic Condition Improvements

- It is recommended that Dell Range Boulevard be improved to be a five-lane roadway providing two through lanes in each direction between and through the intersections of College Drive to Van Buren Avenue. The five-lane roadway is recommended to transition to one through lane in each direction east of the Van Buren Avenue intersection. A continuous two-way left turn lane should remain through the five-lane section.

- It is recommended that Dell Range Boulevard be improved to be a three-lane roadway with a continuous two way left turn lane between James Drive and Whitney Road.

- It is recommended that the northbound right turn lane at the Dell Range Boulevard and Ridge Road intersection (#1) be restriped to show an extension from the existing 125 feet to 200 feet. Additionally, this intersection may require a second northbound through lane and a 100-foot westbound right turn lane by the long-term horizon.

- The intersection of Dell Range Boulevard and College Drive (#2) may need 225-foot northbound dual left turn lanes, a 250-foot northbound right turn lane, a 100-foot westbound right turn lane, and a 100-foot southbound right turn lane by 2040.

- The intersection of Dell Range Boulevard and James Drive (#5) should be improved to provide a center two-way left-turn lane along Dell Range Boulevard.

- The intersection of Dell Range Boulevard and Whitney Road (#6) should be signalized, and the westbound and southbound approaches should provide separate 100-foot left turn lanes so that all approaches include left turn lanes.

- The eastbound left turn lane at the US-30 and Van Buren Avenue intersection (#8) should be extended to a length of 250 feet to accommodate projected queues.

- A westbound left turn lane at the US-30 and Hayes Avenue intersection (#9) is recommended to be 100-foot long to accommodate projected queues.

- The Storey Boulevard and Ridge Road intersection (#11) should be signalized.

- It is recommended that the eastbound right turn lane at the Storey Boulevard and College Drive intersection (#12) be extended from 100 feet to 175 feet. This intersection should also be considered for signalization and provide a separate 100-foot westbound left turn lane.

- The intersection of College Drive and Thomas Road (#13) may warrant signalization upon buildout of the proposed Whitney Ranch development. The eastbound and

westbound approaches of this intersection should provide separate left turn lanes of 100 feet and 275 feet, respectively.

- The future intersection of Storey Boulevard and Van Buren Avenue (#18) should operate with stop control along Van Buren Avenue or be constructed as a single lane roundabout to accommodate future traffic volumes.

- The future intersection of Thomas Road and Van Buren Avenue (#19) should operate with all-way stop control or be constructed as a single lane roundabout to accommodate future traffic volumes.

- At the full movement access intersections along Dell Range Boulevard (#22) and Whitney Road (#21) for the commercial parcel on the northwest corner of this intersection, it is recommended that the driveway approaches to the public street have separate left turn and right turn lanes and operate with stop control. Likewise, 100-foot left turn lanes for entering traffic movements are also recommended along the public street.

General Recommendations

All on-site and off-site signing and striping improvements should be incorporated into the Civil Drawings, and conform to City of Cheyenne and/or Wyoming Department of Transportation standards as well as the Manual on Uniform Traffic Control Devices – 2009 Edition (MUTCD).

2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this report to document the results of a Traffic Impact Study of future traffic conditions associated with the proposed Whitney Ranch project to be located on the northwest corner of the Whitney Road and Dell Range Boulevard intersection in Cheyenne, Wyoming. A vicinity map illustrating the project location is shown in **Figure 1**.

At full build out, Whitney Ranch is proposed to include approximately 1,293 single-family detached homes, 913 condominiums/townhouses, two elementary schools, and 567,325 square feet of retail use. A conceptual land use site plan illustrating the development and access is shown in **Appendix F**. It is expected that construction of Whitney Ranch will be developed in phases with the first phase, as studied herein as Filings 1 and 2, being completed in 2022. The remainder of the project will be developed in approximately twenty years. The first phase will consist of filings one and two and is expected to include 232 single-family detached homes and 24 condominiums/townhomes. Analysis was therefore conducted for the 2022 short term horizon, as well as the 2040 long-term twenty-year planning horizon

The purpose of this study is to identify project traffic generation characteristics, to identify potential project traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts. The following intersections, labeled intersection number 1-22 to correspond with the figures, were incorporated into this traffic study in accordance with the City of Cheyenne standards and requirements:

1. Dell Range Boulevard and Ridge Road
2. Dell Range Boulevard and College Drive
3. Dell Range Boulevard and Van Buren Avenue
4. Dell Range Boulevard and El Camino/Gysel Place
5. Dell Range Boulevard and James Drive
6. Dell Range Boulevard and Whitney Road
7. Dell Range Boulevard and US-30
8. US-30 and Van Buren Avenue
9. US-30 and Hayes Avenue
10. US-30 and Whitney Road

11. Storey Boulevard and Ridge Road
12. Storey Boulevard and College Drive
13. College Drive and Thomas Road
14. Whitney Road and Beckle Road
15. Whitney Road and Buttercup Drive
16. Whitney Road and Chickadee Drive
17. Whitney Road and Foxglove Drive
18. Storey Boulevard and Van Buren Avenue (Future)
19. Van Buren Avenue and Thomas Road (Future)
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21. Whitney Road Commercial Access (Future)
22. Dell Range Boulevard Commercial Access (Future)

Regional access will be provided by Interstate 25 (I-25), Interstate 80 (I-80), and US-85. Primary access to the site will be provided by Whitney Road, Dell Range Boulevard, Storey Boulevard, and Van Buren Avenue. Direct access to proposed development will be provided by accesses along Dell Range Boulevard including Gysel Place, James Drive, and Commercial Access while access will also be provided along Whitney Road with Buttercup Drive/Thomas Road, Chickadee Drive, Foxglove Drive, and Commercial Access. Internal future access will also be provided along Van Buren Avenue with Chickadee Drive as well as Thomas Road.

Kimley»Horn
NORTH
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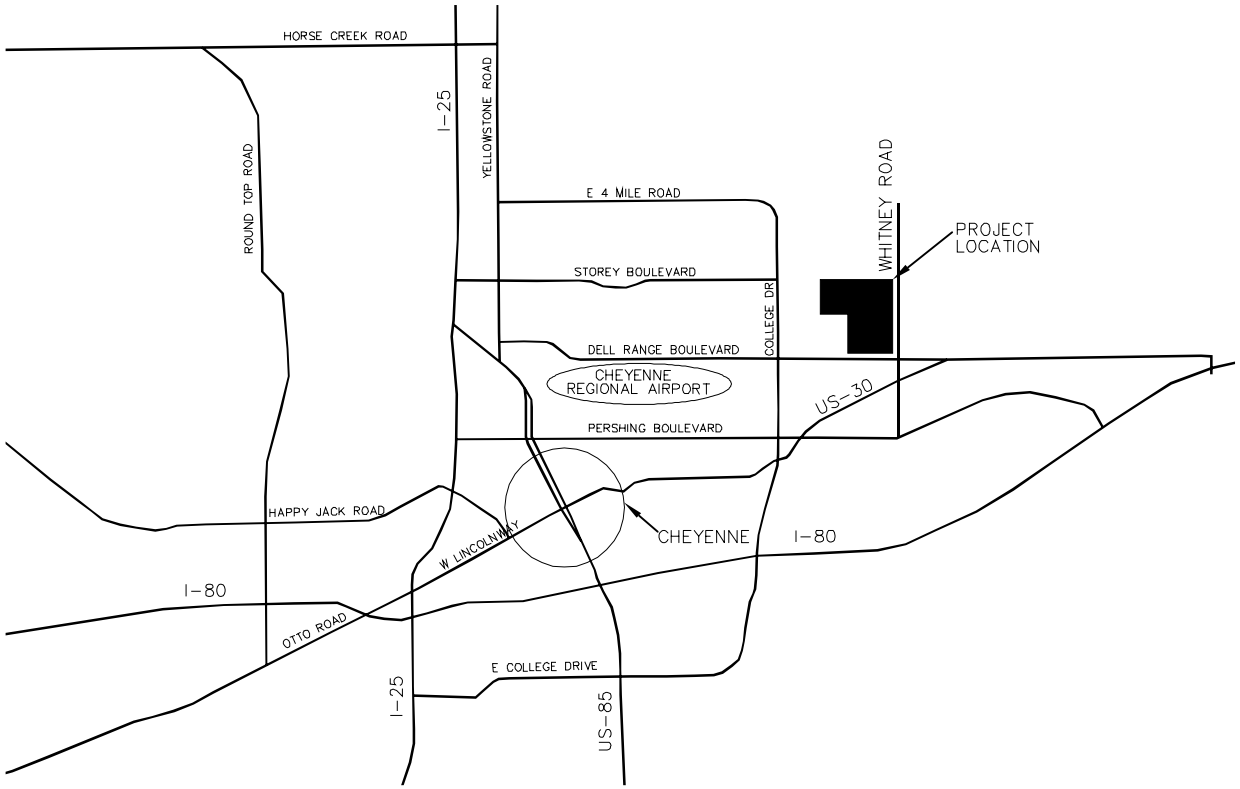

WHITNEY RANCH
VICINITY MAP

FIGURE 1

Kimley»Horn

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Roadway Network

Roadway Descriptions

Whitney Road extends north-south with one through lane in each direction with posted speed limits ranging from 30 miles per hour to 40 miles per hour. It is presently a County roadway. Whitney Road does not widen at intersections for auxiliary turn lanes with the exception of the northbound approach at U-30. Dell Range Boulevard is an east-west roadway that provides two through lanes in each direction west of College Drive and one through lane in each direction east of College Drive. The posted speed limit along Dell Range Boulevard is 40 miles per hour west of College Drive and 35 miles per east of College Drive. Van Buren Avenue extends north-south with one through lane in direction with a posted speed limit of 30 miles per hour south of Dell Range Boulevard and 25 miles per hour north of Dell Range Boulevard.

Storey Boulevard is an east-west roadway that provides one through lane in each direction with a posted speed limit ranging from 30 miles per hour to 35 miles per hour within the study area. The Storey Boulevard alignment changes names to Summit Drive east of Ridge Road and to Beckle Road east of Whitney Road. Storey Boulevard is an unpaved gravel road east of College Drive and terminates at Highland Road to the east. Ridge Road extends north-south with one through lane in each direction with a center two-way left turn lane with a posted speed limit of 35 miles per hour. College Drive is a north-south roadway that provides one through lane in each direction with a posted speed limit of 40 miles per hour. Thomas Road extends east-west with one through lane in direction. Thomas Road is a gravel road to the east of College Drive. US-30 is an east-west roadway with a span that extends northeast and southwest within the study area. US-30 provides two through lanes in each direction with a landscaped median west of Hayes Avenue while providing one through lane in each direction with a center two-way left-turn lane east of Hayes Avenue. US-30 carries a speed limit of 45 miles per hour west of Dell Range Boulevard and 55 miles per hour east of Dell Range Boulevard.

El Camino Drive and Gysel Place are north-south roadways offset by approximately 130 feet and are located between Van Buren Avenue and Whitney Road. Gysel Place is a gravel road extending north of Dell Range Boulevard. El Camino Drive extends south of Dell Range Boulevard with one through lane in each direction. Hayes Avenue extends north-south with one

through lane in each direction with a posted speed limit of 25 miles per hour. James Drive alignment is currently a gravel driveway within the County, extending north of Dell Range Boulevard. Buttercup Drive is a County gravel roadway extending east of Whitney Road with a posted speed limit of 30 miles per hour. Chickadee Drive, a gravel County road, extends east of Whitney Road. Foxglove Drive extends east of Whitney Road with one through lane in each direction with a posted speed limit of 30 miles per hour. Foxglove Drive is a County roadway that transitions to a southeast and northwest alignment roadway where it also extends north from Dell Range Boulevard.

Intersection Descriptions

The intersection of Dell Range Boulevard and Ridge Road (Intersection Number 1 in the list and figures) is signalized with protected/permitted left turn phasing on all four approaches. The eastbound approach of this intersection provides a left turn lane, two through lanes and a right turn lane while the westbound approach has a left turn lane and two through lanes with the outermost lane being a shared through/right turn lane. The northbound and southbound approaches include a left turn lane, one through lane, and a right turn lane.

The intersection of Dell Range Boulevard and College Drive (#2) is signalized with protected/permitted left turn phasing on all four approaches. The eastbound approach of this intersection provides a left turn lane, one through lane, and a right turn lane. The westbound, northbound, and southbound approaches all provide a left turn lane and two through lanes with the outermost lane being a shared through/right turn lane.

The intersection of Dell Range Boulevard and Van Buren Avenue (#3) operates with stop control on the northbound and southbound approaches of Van Buren Avenue. The eastbound and westbound approaches of this intersection provide a left turn lane and shared through/right turn lane. The northbound and southbound approaches provide a single shared all movement lane.

The existing intersection of Dell Range Boulevard and El Camino Drive/Gysel Place (#4) operates with stop control along the northbound and southbound approaches. The north and south legs of this intersection are offset by approximately 130 feet, but is analyzed as a four-leg intersection instead of two T-intersections. The eastbound and westbound approaches of this

intersection provide a left turn lane and shared through/right turn lane. The northbound and southbound approaches provide a single shared all movement lane.

The intersection of Dell Range Boulevard and James Drive (#5) operates with stop control along the northbound and southbound approaches. The south leg of this intersection is a driveway providing access to a single-family residence. All four approaches to this intersection provide a single shared all movement lane.

The Dell Range Boulevard and Whitney Road intersection (#6) operates with stop control along the northbound and southbound approaches of Whitney Road. The eastbound approach of this intersection provides a left turn lane and a shared through/right turn lane. The westbound, northbound, and southbound approaches provide single shared movement lanes.

The intersection of Dell Range Boulevard and US-30 (#7) provides stop control along the northbound and southbound approaches. The eastbound approach of this intersection provides a left turn lane and a shared through/right turn lane. The westbound approach includes a left turn lane, one through lane, and a channelized right turn lane. The northbound and southbound approaches provide a single shared all movement lane.

The T-intersection of US-30 and Van Buren Avenue (#8) operates with stop control on the southbound Van Buren Avenue approach. The eastbound approach of this intersection provides a left turn lane and two through lanes while the westbound approach includes two through lanes with the outermost lane being a shared through/right turn lane. The southbound approach provides a shared left turn/right turn lane.

The US-30 and Hayes Avenue intersection (#9) provides stop control along the northbound and southbound approaches. The eastbound approach of this intersection provides a left turn lane, two through lanes and a right turn lane while the westbound approach provides a short left turn lane and two through lanes with the outermost lane being a shared through/right turn lane. The northbound and southbound approaches provide a single shared all movement lane.

The intersection of US-30 and Whitney Road (#10) operates with stop control along the northbound and southbound approaches. The eastbound and westbound approaches of this

intersection provide a left turn lane, one through lane, and a right turn lane. The northbound approach includes a left turn lane and a shared through/right turn lane. The southbound approach provides a single shared all movement lane.

The Storey Boulevard and Ridge Road intersection (#11) operates with stop control along eastbound and westbound Storey Boulevard approaches. The eastbound and westbound approaches of this intersection provide a left turn lane, one through lane, and a right turn lane. The northbound and southbound approaches include a left turn lane and a shared through/right turn lane.

The Storey Boulevard and College Drive intersection (#12) operates with stop control along eastbound and westbound Storey Boulevard approaches. The eastbound approach of this intersection provides a left turn lane, one through lane, and a right turn lane, while the westbound approach provides a single shared movement lane. The northbound and southbound approaches provide a left turn lane and a shared through/right turn lane.

The intersection of College Drive and Thomas Road (#13) operates with stop control along eastbound and westbound approaches. The eastbound and westbound approaches of this intersection provide a shared movement lane. The northbound and southbound approaches include a left turn lane and a shared through/right turn lane.

The Whitney Road and Beckle Road intersection (#14) operates with stop control along the eastbound and westbound approaches. All four approaches to this intersection provide a single shared movement lane.

The T-intersection of Whitney Road and Buttercup Drive (#15) operates with stop control along the westbound Buttercup Drive approach. The westbound approach of this intersection provides a shared left turn/right turn lane. The northbound approach provides a shared through/right turn lane while the southbound approach provides a shared left turn/through lane.

The T-intersection of Whitney Road and Chickadee Drive (#16) operates with stop control along the westbound Chickadee Drive approach. The westbound approach of this intersection

provides a shared left turn/right turn lane. The northbound approach provides a shared through/right turn lane while the southbound approach includes a shared left turn/through lane.

The T-intersection of Whitney Road and Foxglove Drive (#17) operates with stop control along the westbound Foxglove Drive approach. The westbound approach of this intersection provides a shared left turn/right turn lane. The northbound approach provides a shared through/right turn lane while the southbound approach provides a shared left turn/through lane.

The intersection lane configuration and control for the study area key intersections are shown in **Figure 2**.

3.2 Future Roadway Network

It is understood that WYDOT is improving US-30 to include two through lanes in each direction throughout the study area. Likewise, the US-30 intersections with Dell Range Boulevard, Van Buren Avenue, Hayes Avenue, and Whitney Road are anticipated to be signalized.

Development of Whitney Ranch will create additional roadways and extensions of existing roadways. Storey Boulevard transitions to Summit Drive east of Ridge Road. Summit Drive extends from Ridge Road to the west and Highland Road to east. Summit Drive is a gravel roadway between College Drive and Highland Road. As Whitney Ranch develops, the existing Summit Drive segment extending from Ridge Road to Highland Road will be named Storey Boulevard. Storey Boulevard currently terminates to east at Highland Road and will be constructed to extend east from Highland Road approximately 5,330 feet to align with Beckle Road at Whitney Road. The gravel segment of Storey Boulevard between College Drive and Highland Road will be paved with development of Whitney Ranch. Van Buren Avenue currently extends approximately 1,000 feet north of Dell Range Boulevard and will be constructed to extend north from Opal Drive approximately 4,300 feet to connect with the existing Van Buren Avenue alignment at Storey Boulevard. The extension of Van Buren Avenue will create three future major intersections that are analyzed in this study. The three future intersections along Van Buren Avenue consist of Van Buren Avenue/Storey Boulevard (#18), Van Buren Avenue/Thomas Road (#19), and Van Buren Avenue/Chickadee Drive (#20). Additionally, two commercial accesses within the retail parcel proposed to be located on the northwest corner of the Dell Range Boulevard and Whitney Road intersection were analyzed in this study. One

access is proposed as a full movement access along Whitney Road (#21) while the other is a proposed full movement access along Dell Range Boulevard (#22).

3.3 Existing Study Area

The existing site is comprised of vacant land. The surrounding area contains a mix of uses, but it is primarily residential communities consisting of single-family detached homes. Commercial uses exist to the west of the site and downtown Cheyenne is located several miles southwest of the project site.

3.4 Existing Traffic Volumes

Existing peak hour turning movement counts were conducted at the study area intersections on Wednesday, September 6, 2017. The counts were conducted in 15-minute intervals during the morning and afternoon peak hours of adjacent street traffic from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. Existing turning movement counts are shown in **Figure 3** with count sheets provided in **Appendix A**.

3.5 Unspecified Development Traffic Growth

The City of Cheyenne Transportation Plan identifies a growth assumption of 1.25 percent per year through year 2040. The associated growth assumption is included in **Appendix B**. Based on this, an annual growth rate of 1.25 percent was used to calculate future traffic volumes. This annual growth rate was used to estimate near term 2022 and long term 2040 traffic volume projections at the study area intersections. Background traffic volumes for 2022 and 2040 are shown in **Figures 4** and **5**, respectively.

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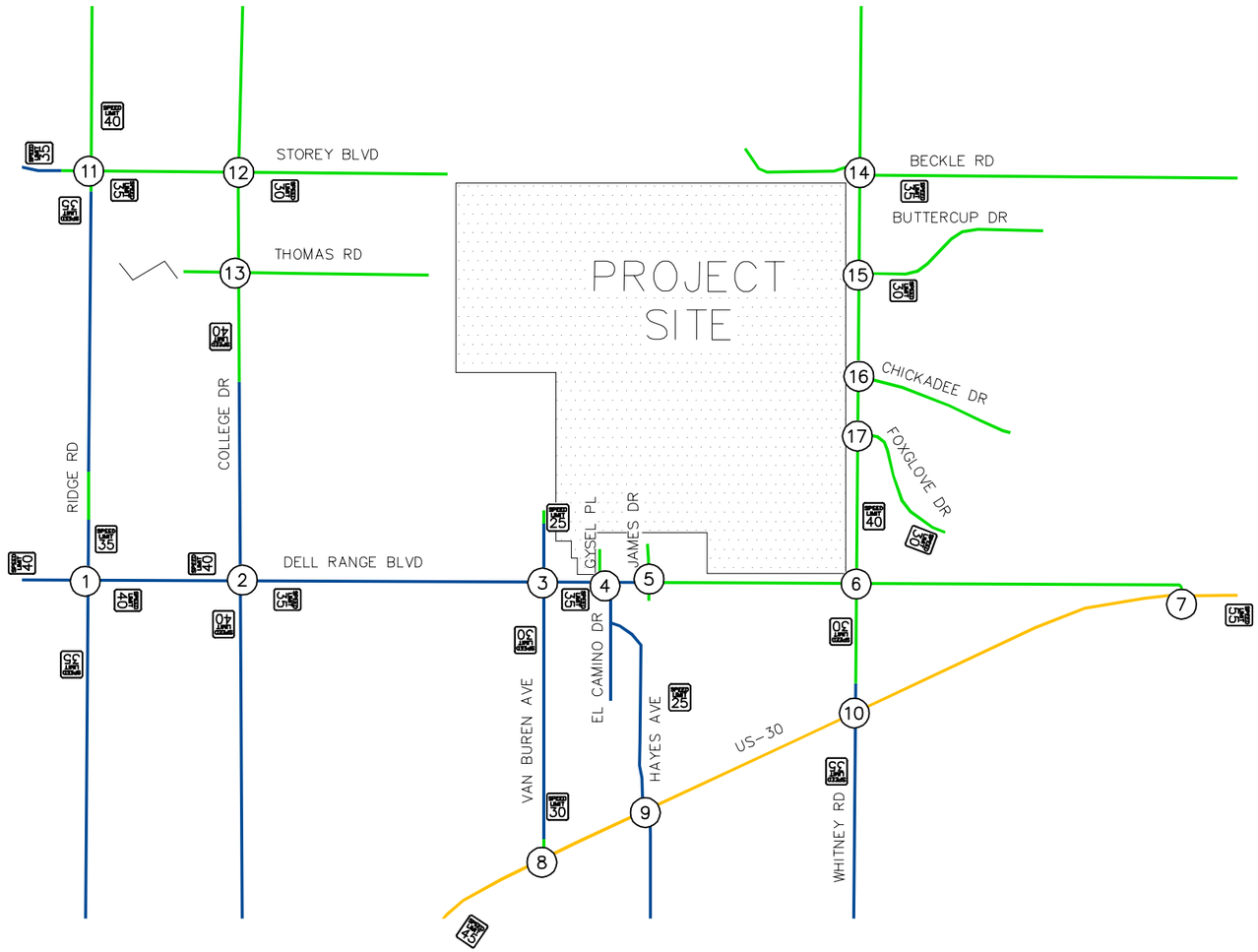

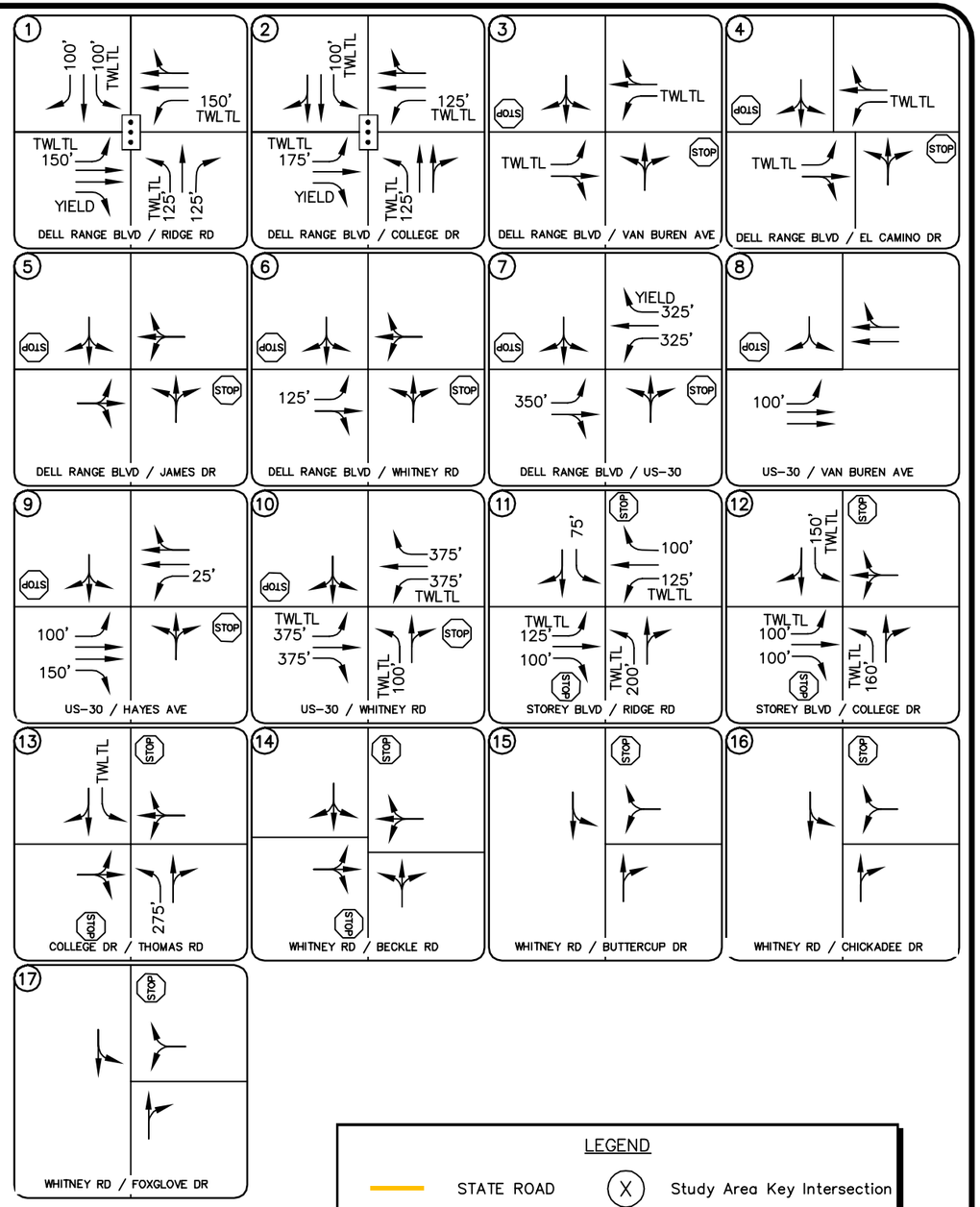

LEGEND

- STATE ROAD
- COUNTY ROAD
- CITY ROAD
- Roadway Speed Limit (SPEED XX)
- (X) Study Area Key Intersection
- (STOP) Stop Controlled Approach
- Signalized Intersection
- 100' Turn Lane Length (feet)

WHITNEY RANCH
EXISTING LANE CONFIGURATIONS AND CONTROL

FIGURE 2

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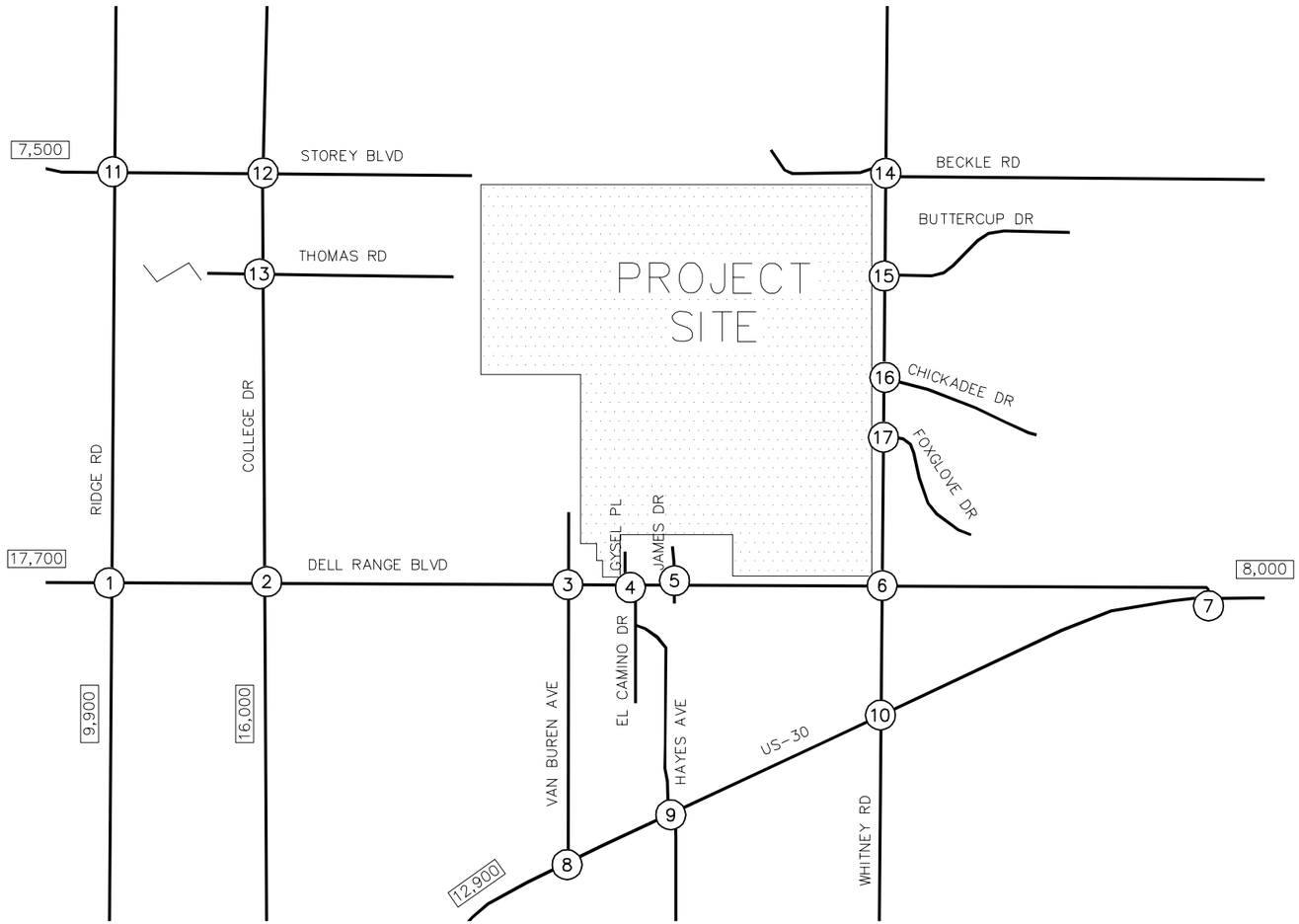

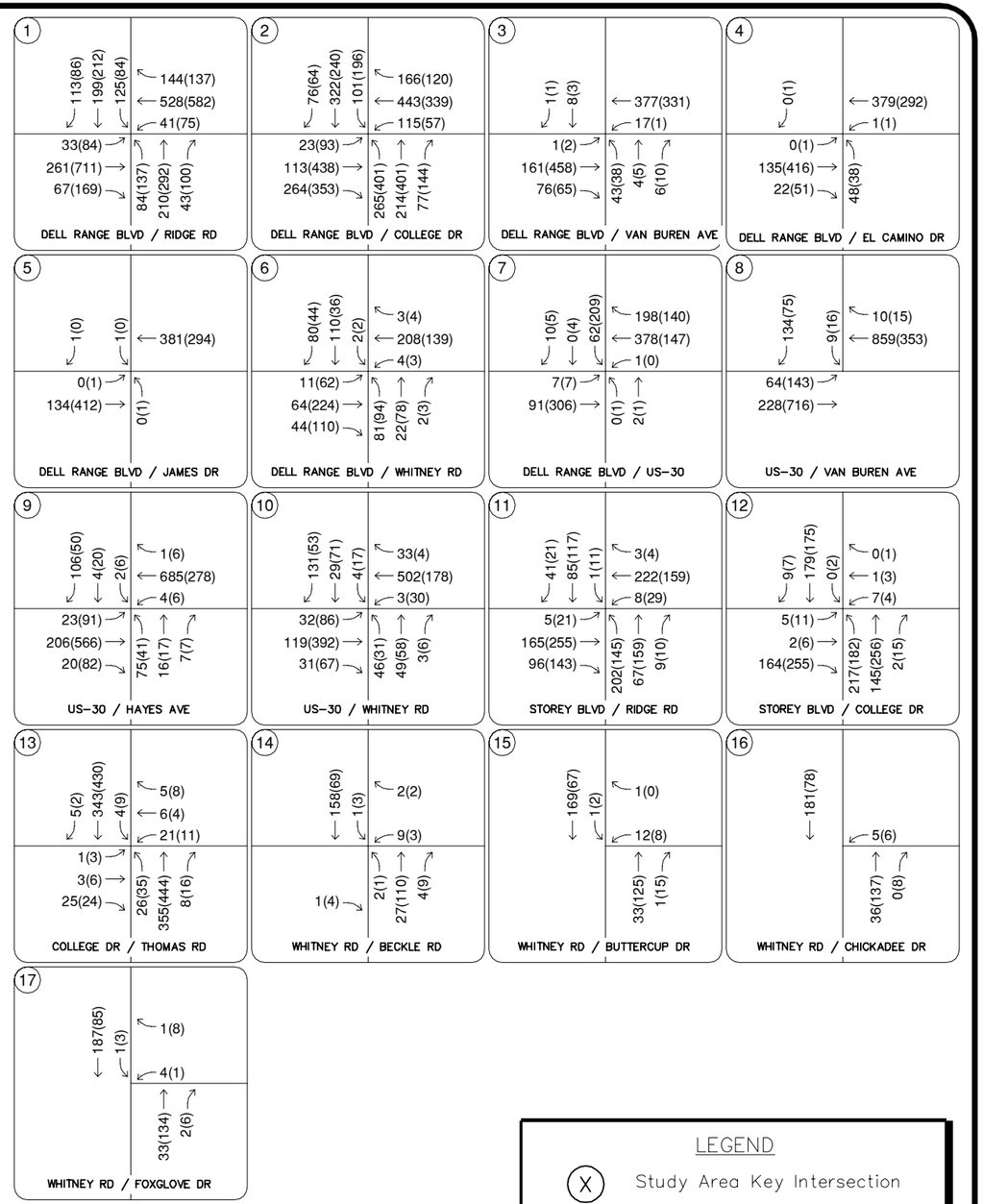

LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

WHITNEY RANCH
EXISTING TRAFFIC VOLUMES

FIGURE 3

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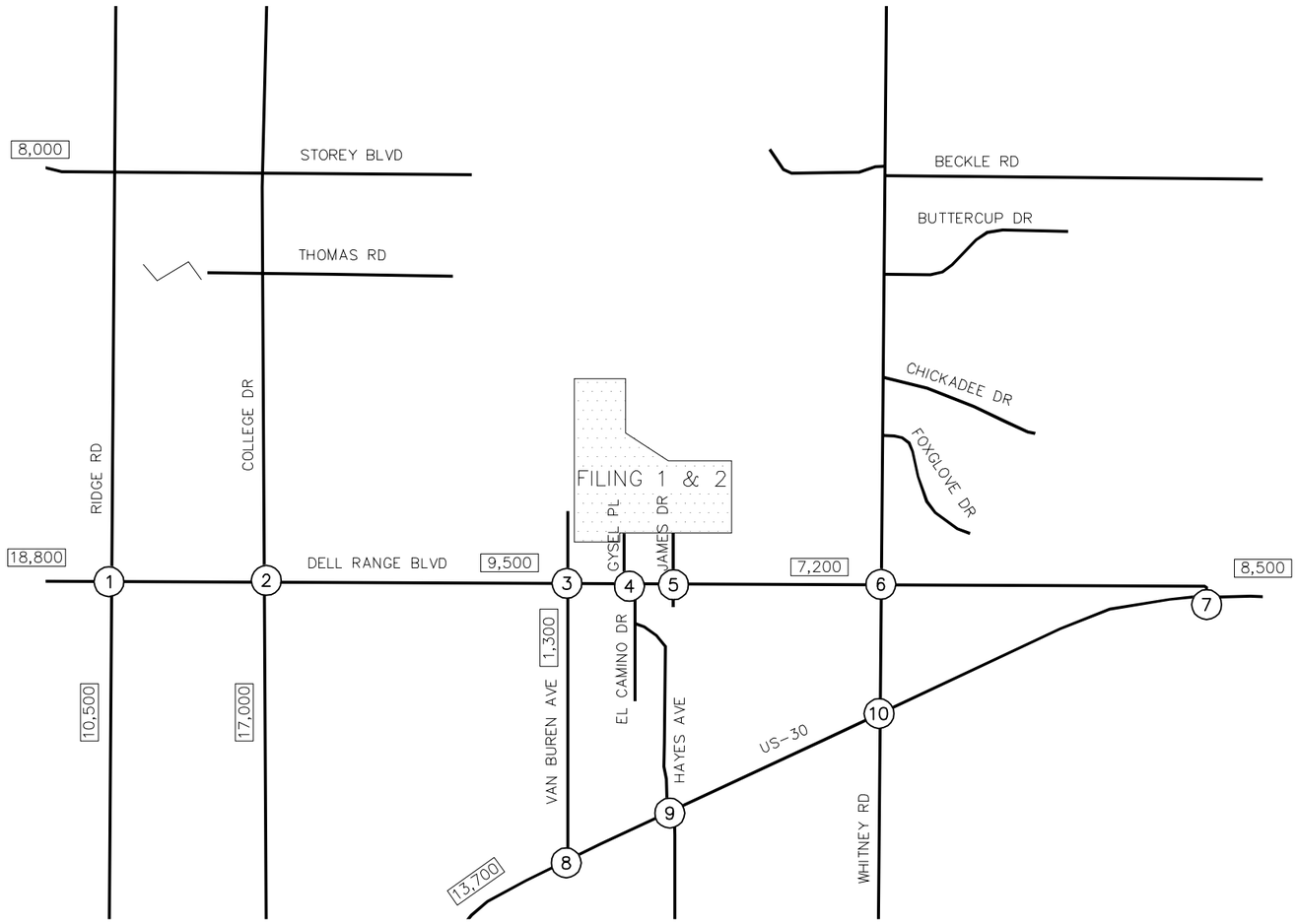

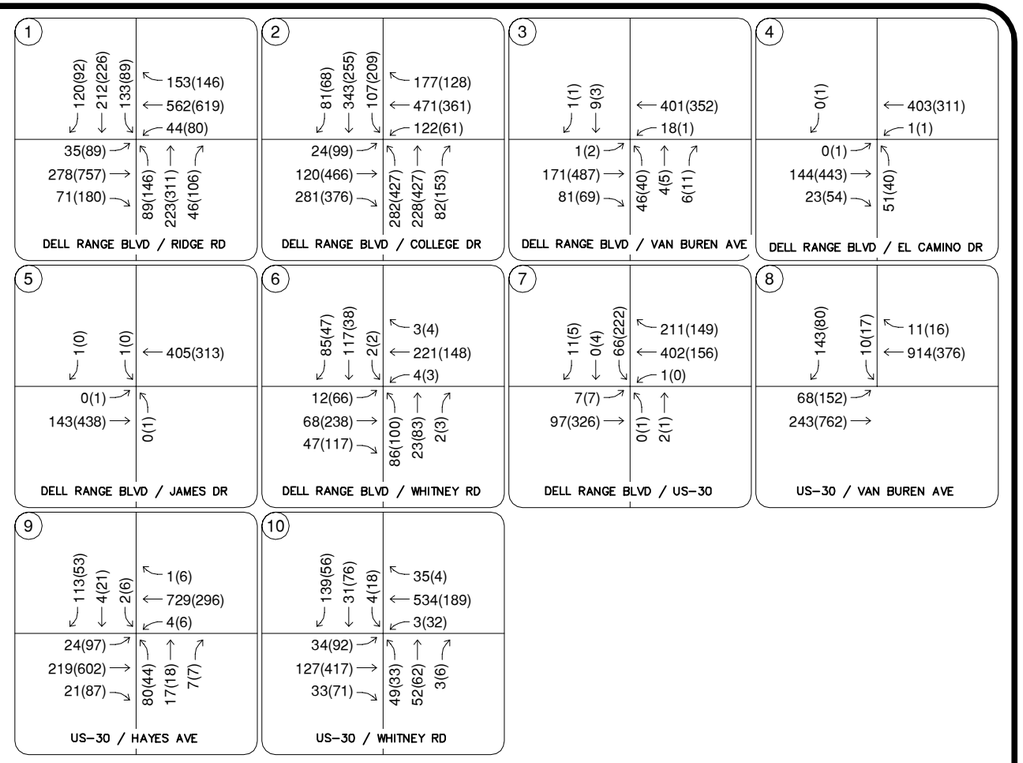

LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

[XX,X00] Estimated Daily Traffic Volume

WHITNEY RANCH
2022 BACKGROUND TRAFFIC VOLUMES

FIGURE 4

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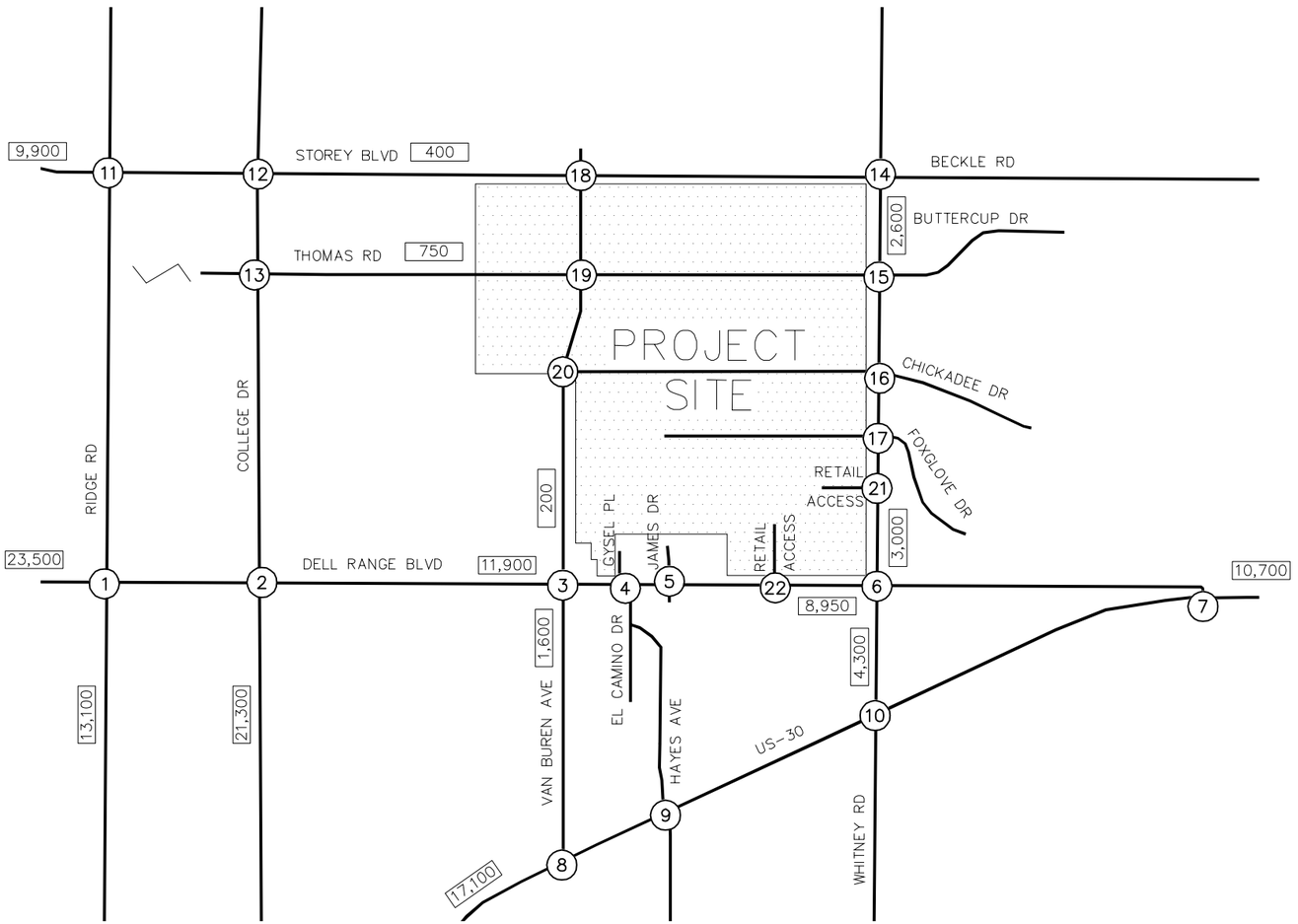
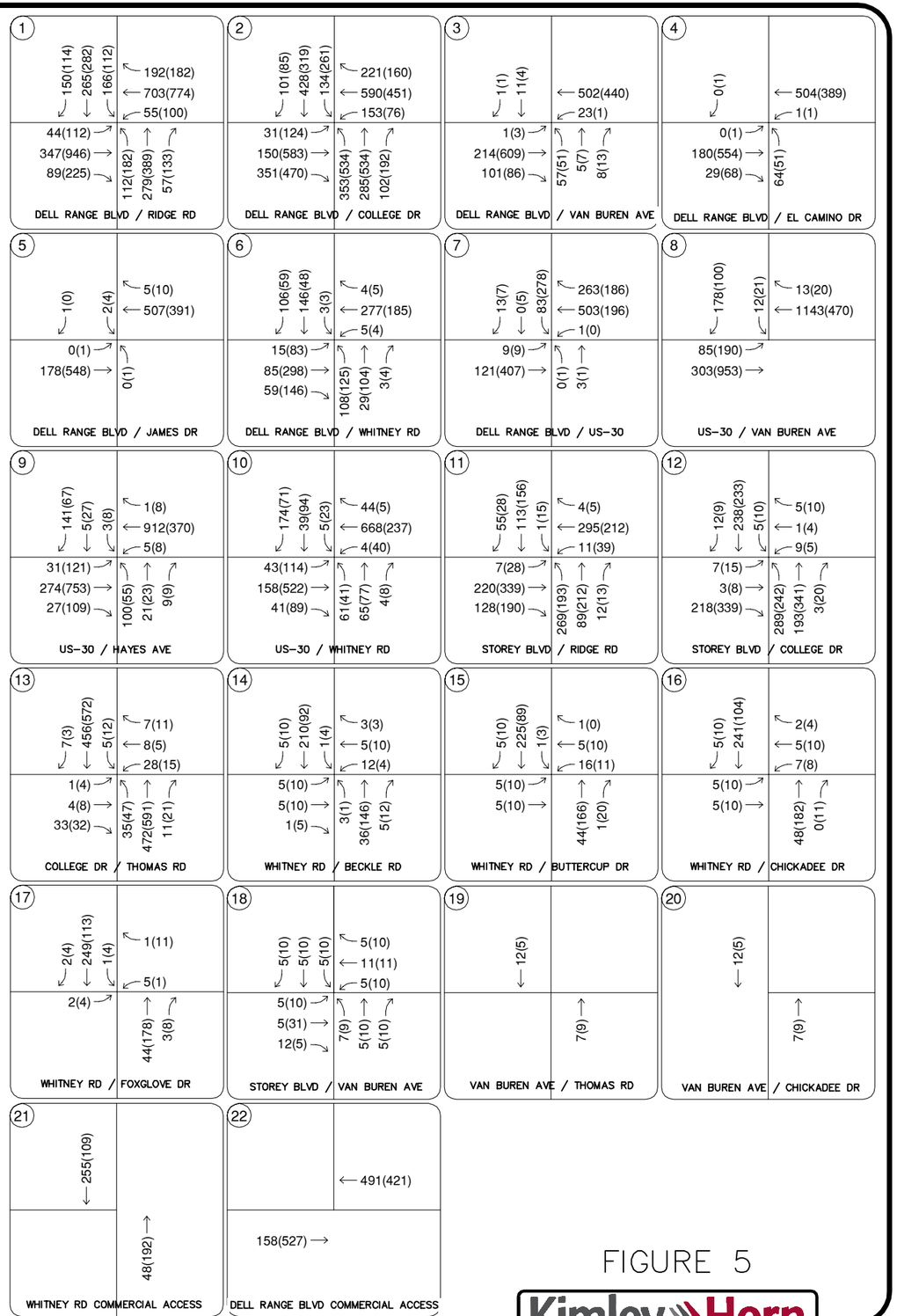
Kimley»Horn
NORTH
NTS 096567001



LEGEND

(X)	Study Area Key Intersection
XXX(XXX)	Weekday AM(PM) Peak Hour Traffic Volumes
XX,X00	Estimated Daily Traffic Volume



WHITNEY RANCH
2040 BACKGROUND TRAFFIC VOLUMES

FIGURE 5

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4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Report*[1] published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation Report regression equations that apply to Single-Family Detached Housing (ITE Code 210), Condominium/Townhouse (230), Shopping Center, and Elementary School (520) for traffic associated with the proposed Whitney Ranch Lab project.

Table 1 summarizes the estimated trip generation for phase 1 (Filing 1 and 2) for the proposed development. The trip generation worksheets are included in **Appendix C**. These calculations illustrate the equations used and directional distribution of trips.

Table 1 – Whitney Ranch Phase 1 (2022) Project Traffic Generation

Land Use	Quantity	Vehicles Trips						
		Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single-Family Detached Housing (ITE 210)	232 Units	2,278	43	129	172	141	83	224
Condominium/Townhouse (230)	24 Units	186	3	13	16	13	6	19
Total		**2,464**	**46**	**142**	**188**	**154**	**89**	**243**

As shown in **Table 1**, the first phase of the project with development of Filings 1 and 2 is expected to generate approximately 2,464 daily weekday trips with 188 of these trips occurring during the morning peak hour and 243 trips occurring during the afternoon peak hour.

Table 2 summarizes the estimated trip generation for buildout of the Whitney Ranch project.

[1] Institute of Transportation Engineers, *Trip Generation: An Information Report*, Ninth Edition, Washington DC, 2012.

Table 2 – Whitney Ranch Buildout Project Traffic Generation

Land Use	Quantity	Vehicles Trips						
		Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single-Family Detached Housing (ITE 210)	1,293 Units	11,066	229	686	915	663	389	1,052
Condominium/Townhouse (230)	913 Units	4,406	52	251	303	247	122	369
Shopping Center (820)	567,325 SF	10,493	278	171	449	920	997	1,917
Elementary School (520)	700 Students	904	174	142	316	53	53	106
Total		**26,869**	**733**	**1,250**	**1,983**	**1,883**	**1,561**	**3,444**

At buildout, the proposed development is anticipated to generate approximately 26,869 weekday daily trips with 1,983 of these trips occurring during the morning peak hour and 3,444 trips occurring during the afternoon peak hour.

4.2 Trip Distribution

Distribution of Whitney Ranch traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding development areas and type, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The first phase 2022 and buildout 2040 trip distributions for the project are illustrated in **Figures 6** and **7**, respectively.

4.3 Traffic Assignment

Traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the project shown in **Table 1** for phase 1 and **Table 2** for buildout. Project traffic assignment for phase 1 and buildout of Whitney Ranch is shown in **Figure 8** and **Figure 9**, respectively.

4.4 Total (Background Plus Project) Traffic

Project traffic volumes were added to the background volumes to represent estimated traffic conditions for the short term 2022 horizon and long term 2040 horizon. These total traffic volumes for the site are illustrated for the 2022 and 2040 horizon years in **Figure 10** and **Figure 11**, respectively.

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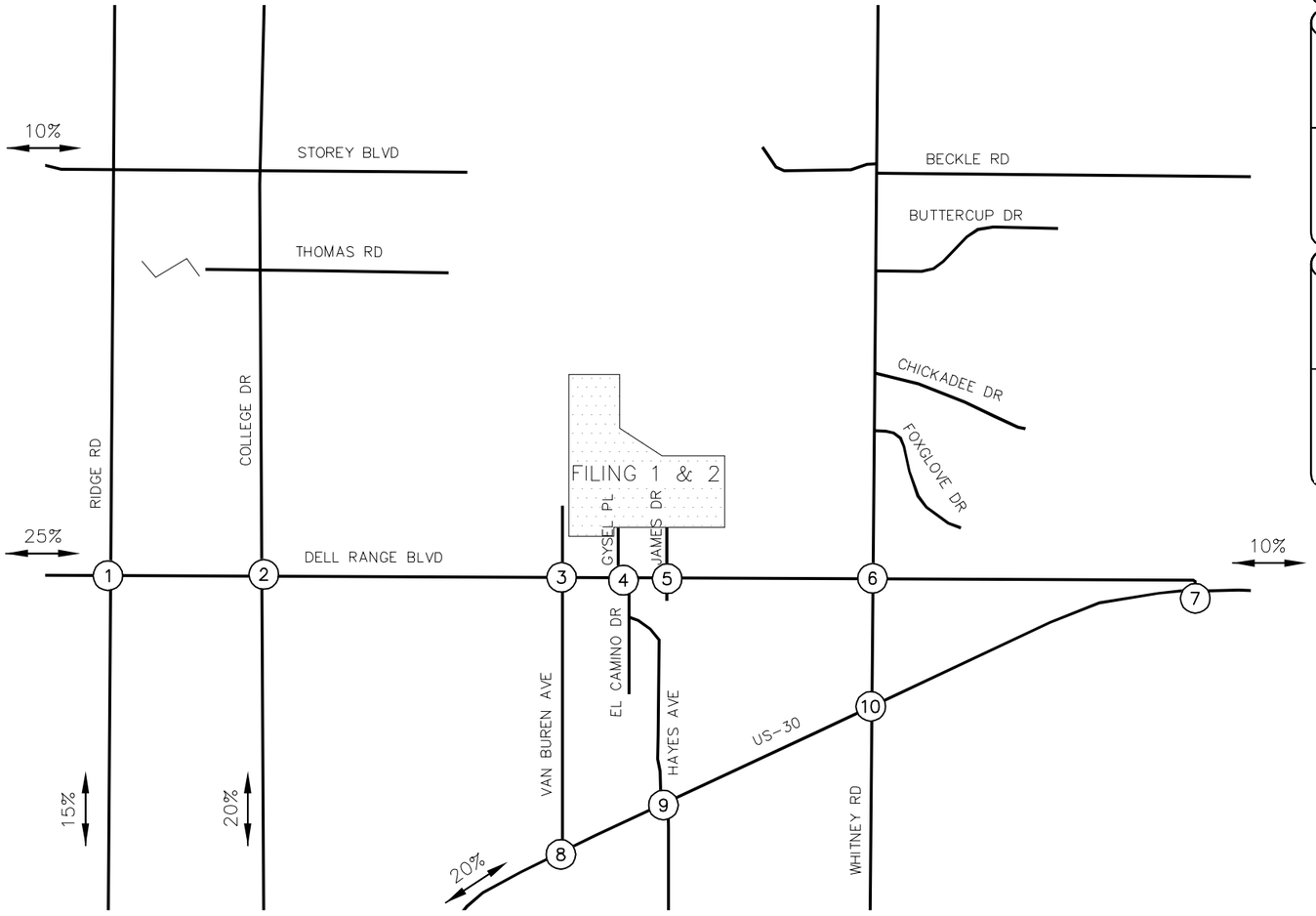

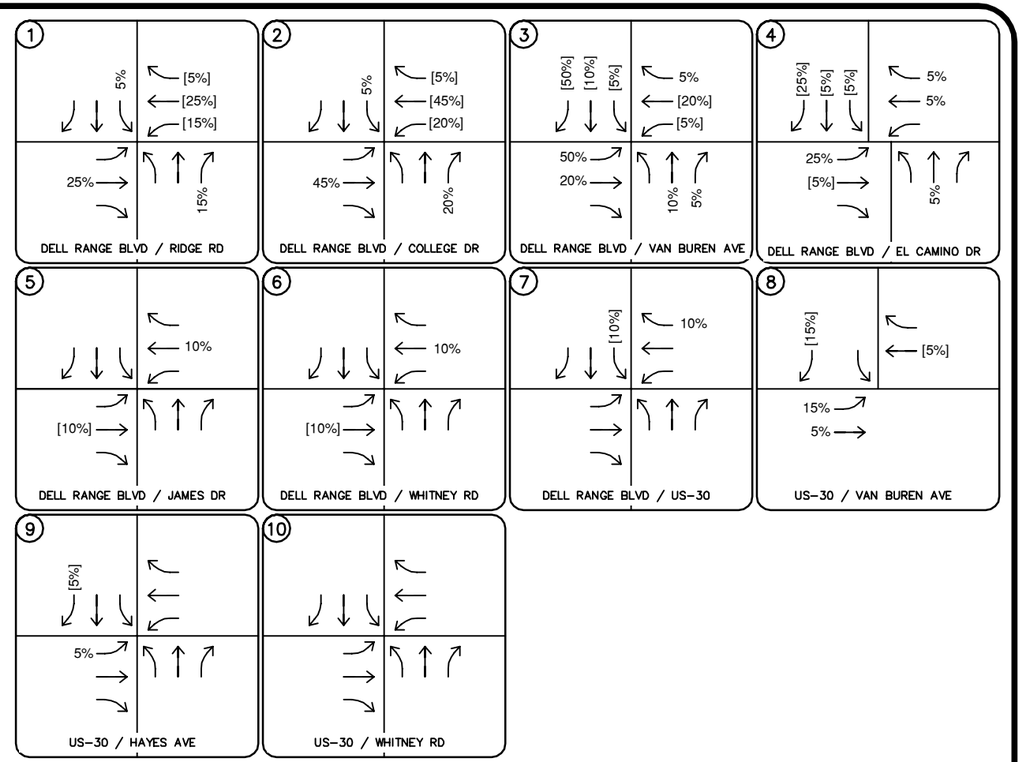

LEGEND

(X) Study Area Key Intersection

XX%[XX%] Entering[Exiting] Trip Distribution Percentage

WHITNEY RANCH
2022 PROJECT TRIP DISTRIBUTION

FIGURE 6

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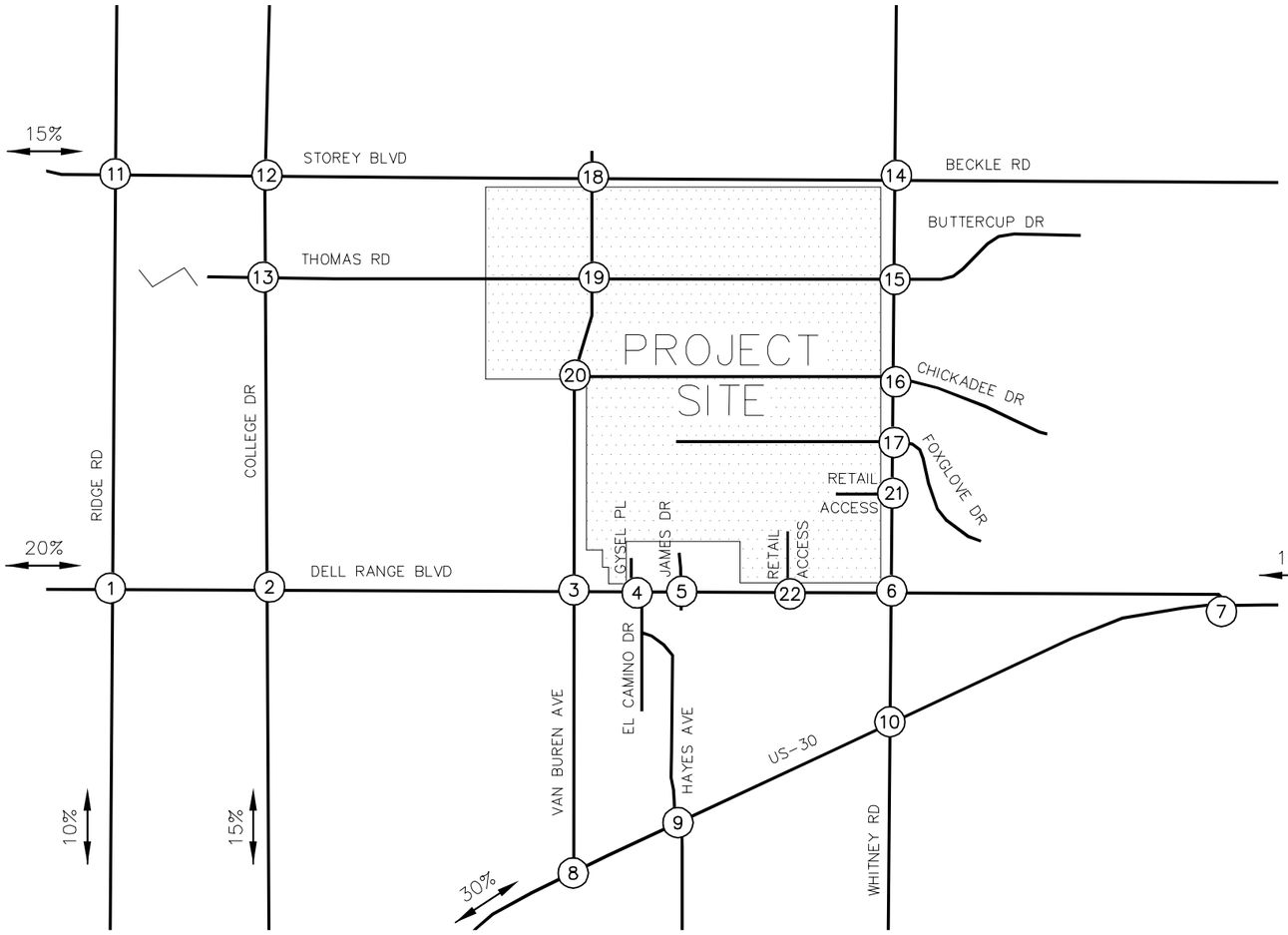

LEGEND

(X) Study Area Key Intersection

XX%[XX%] Entering[Exiting] Trip Distribution Percentage

WHITNEY RANCH
2040 PROJECT TRIP DISTRIBUTION

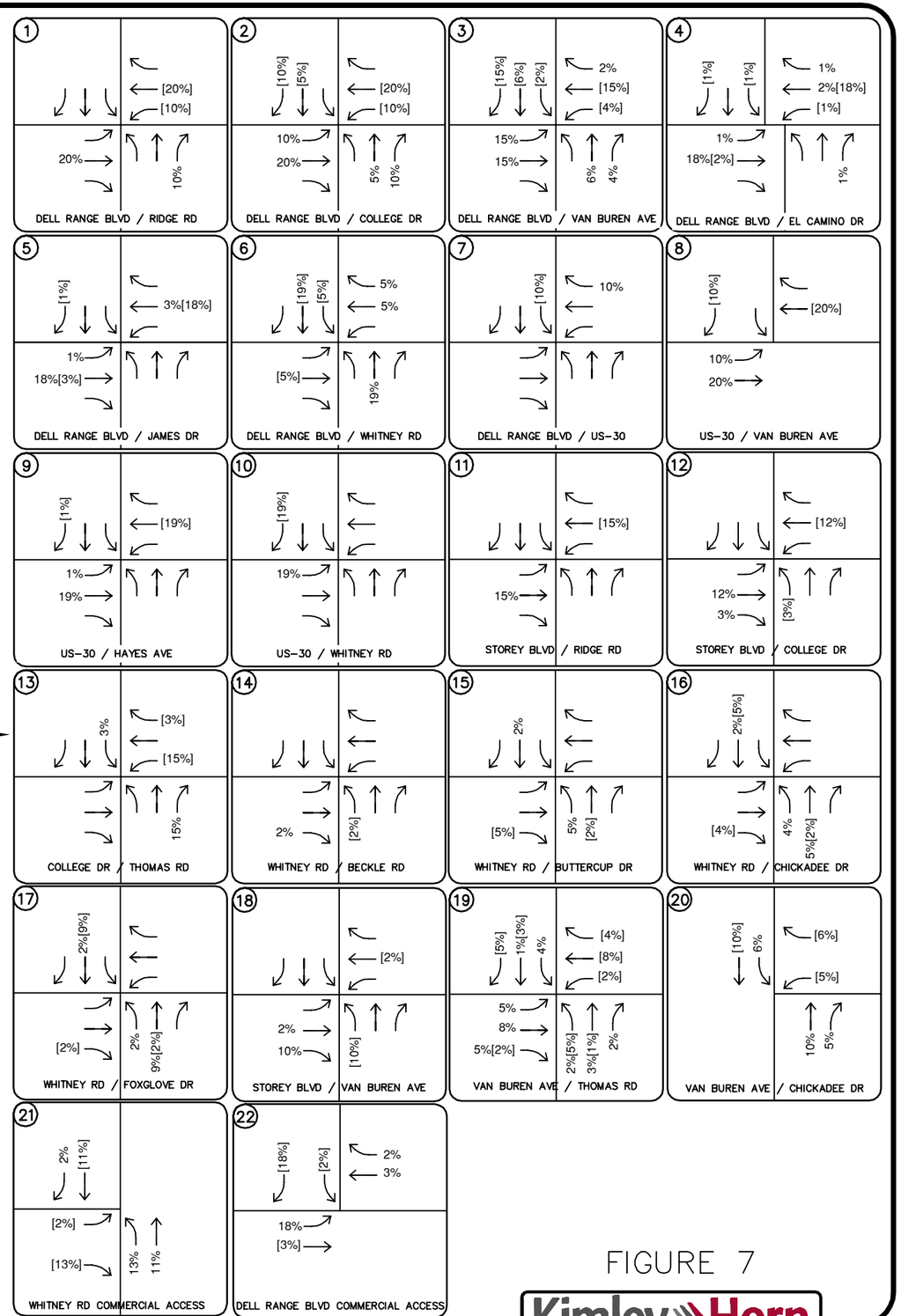

FIGURE 7

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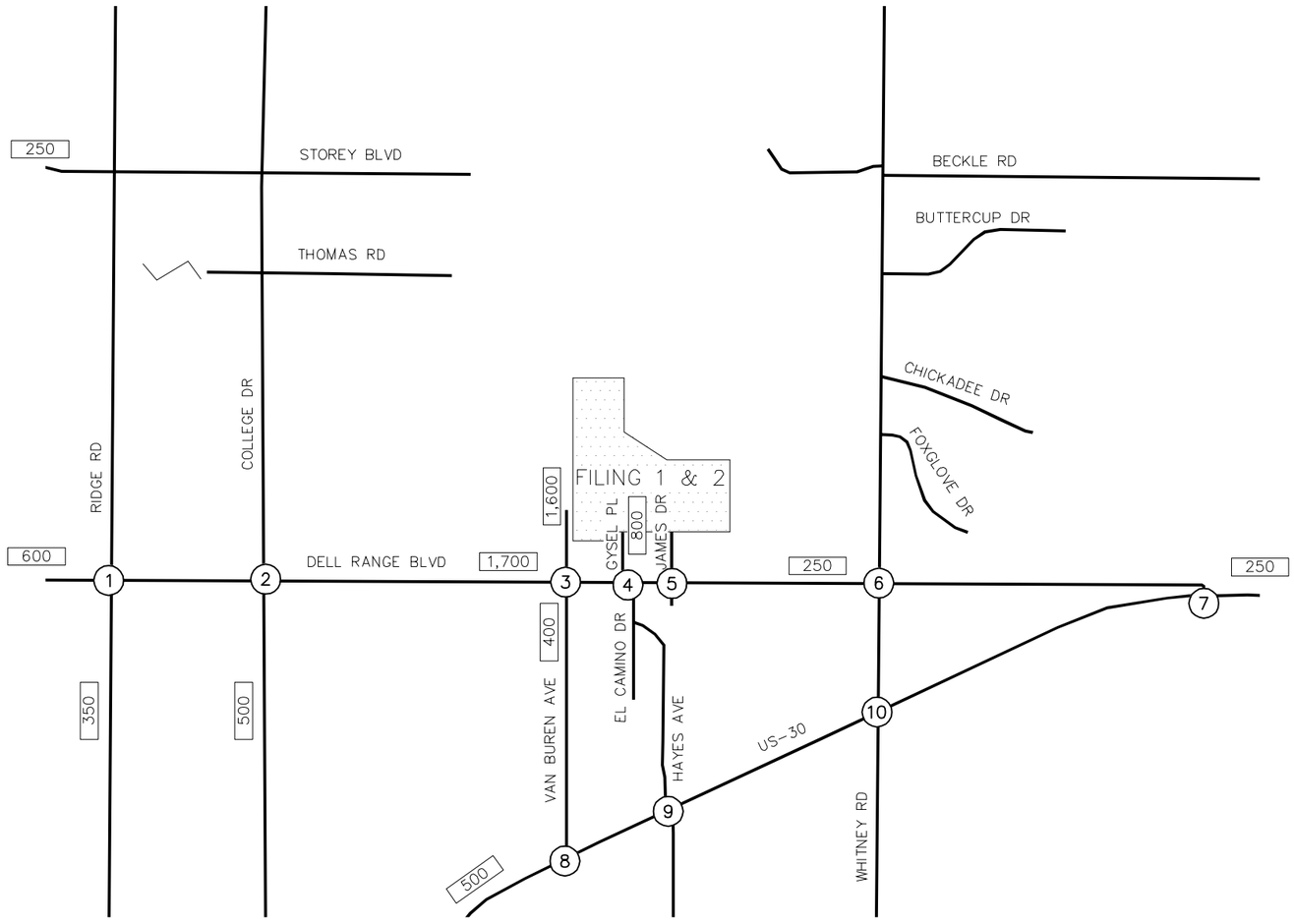

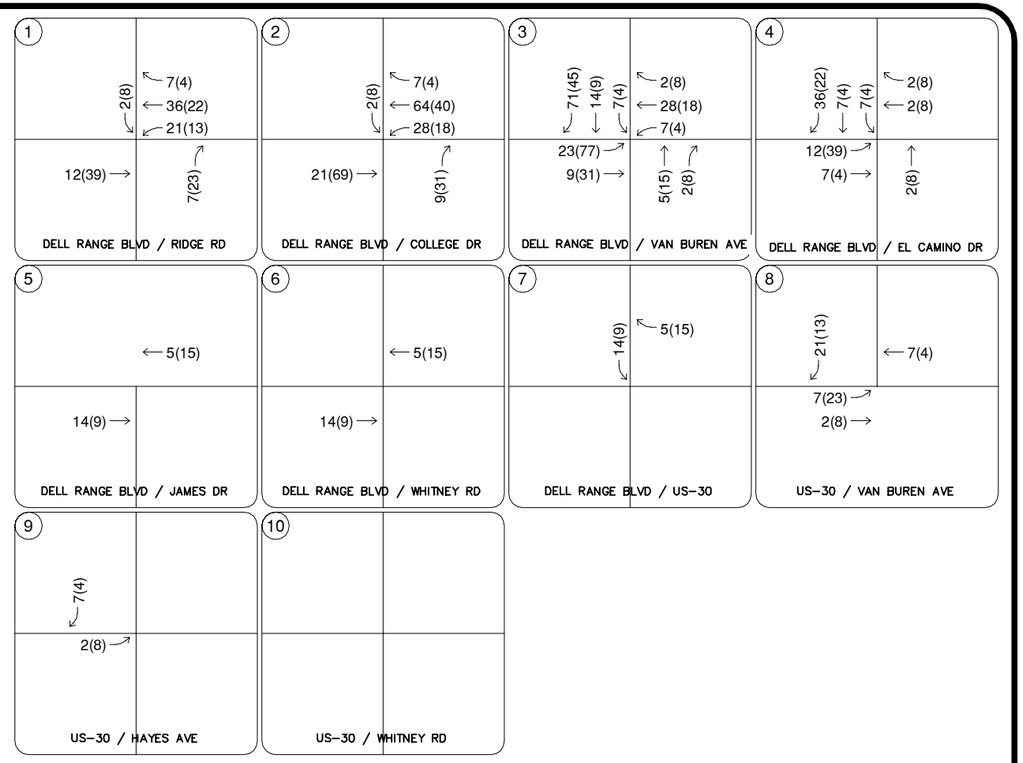

LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

WHITNEY RANCH
2022 PROJECT TRAFFIC ASSIGNMENT

FIGURE 8

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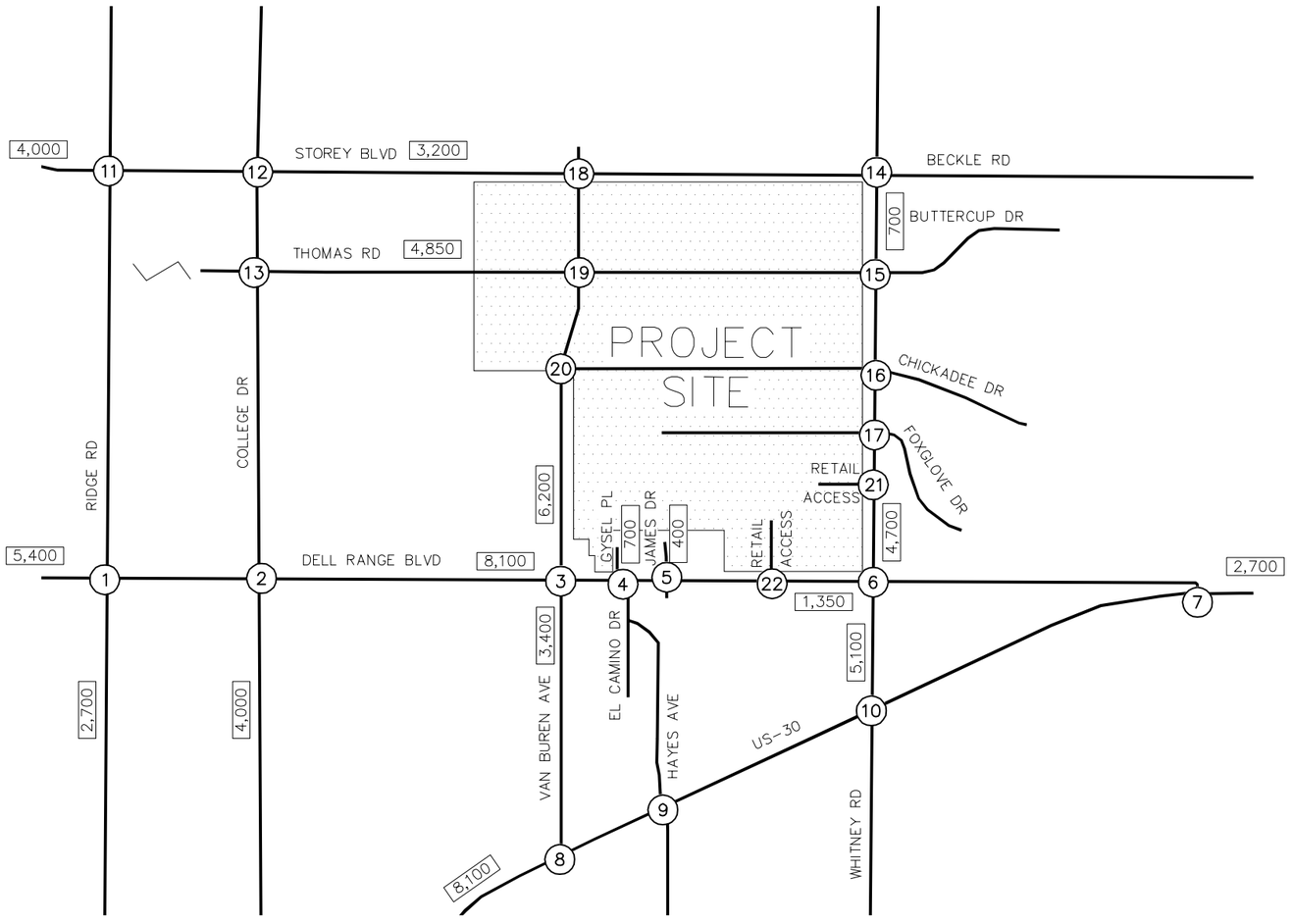
NTS 096567001



LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

WHITNEY RANCH
2040 BUILDOUT PROJECT TRAFFIC ASSIGNMENT

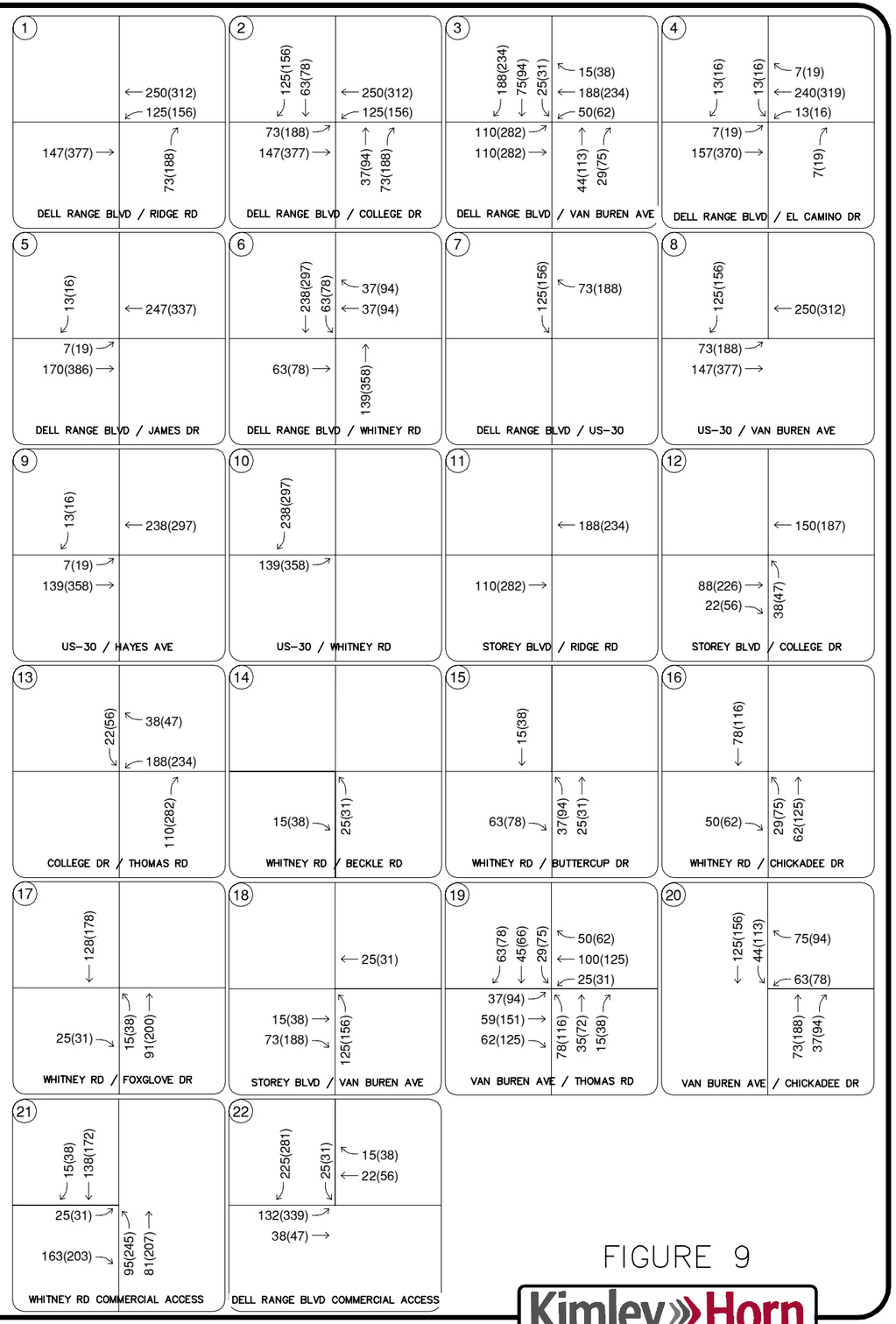


FIGURE 9

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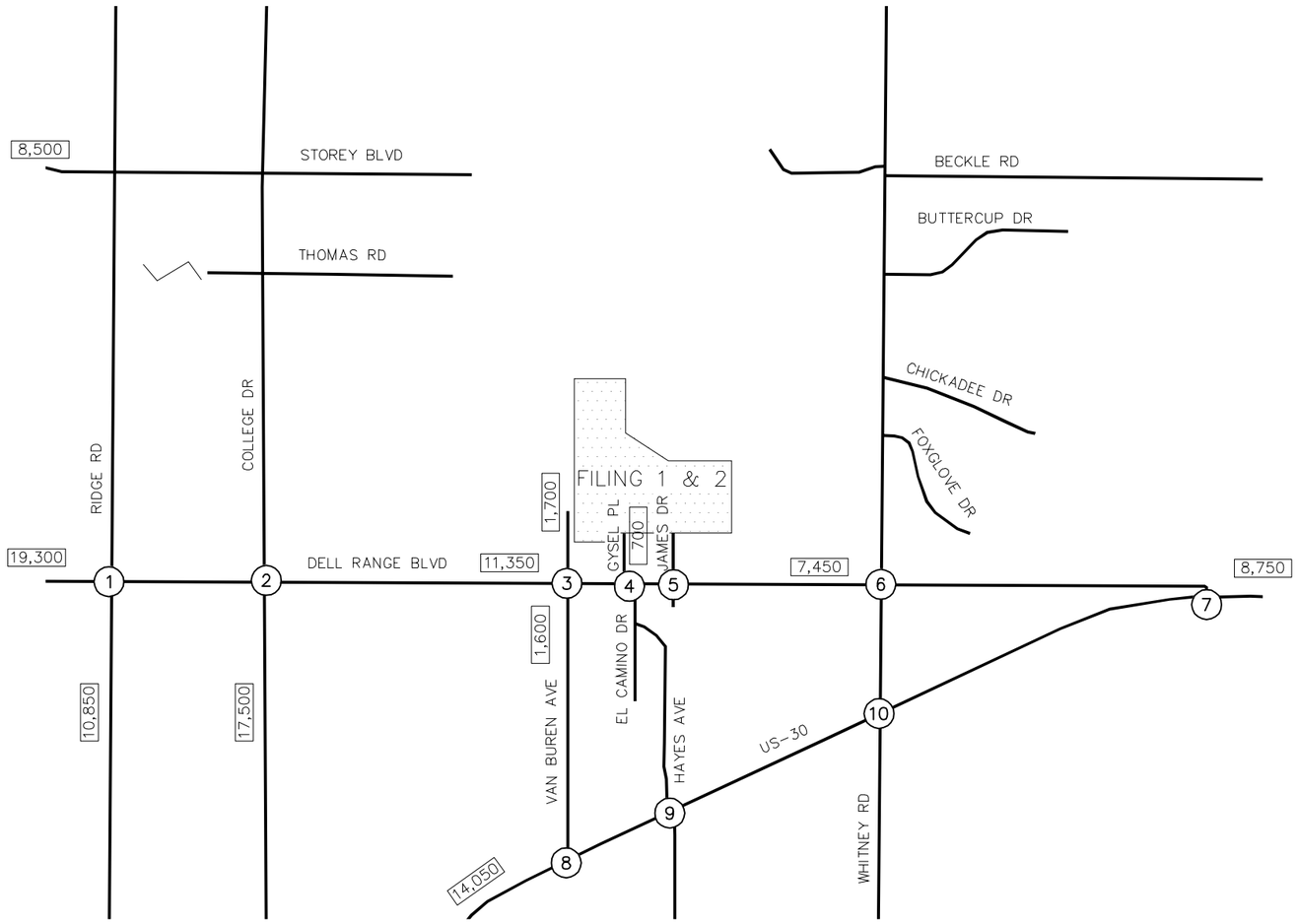
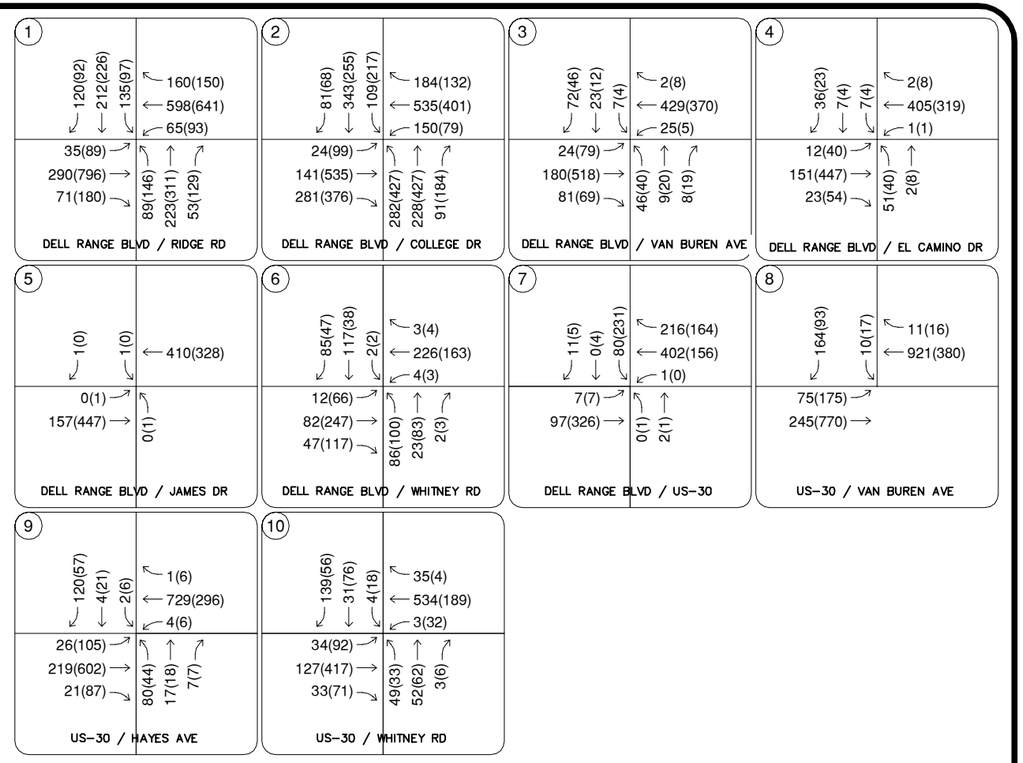




LEGEND

(X) Study Area Key Intersection

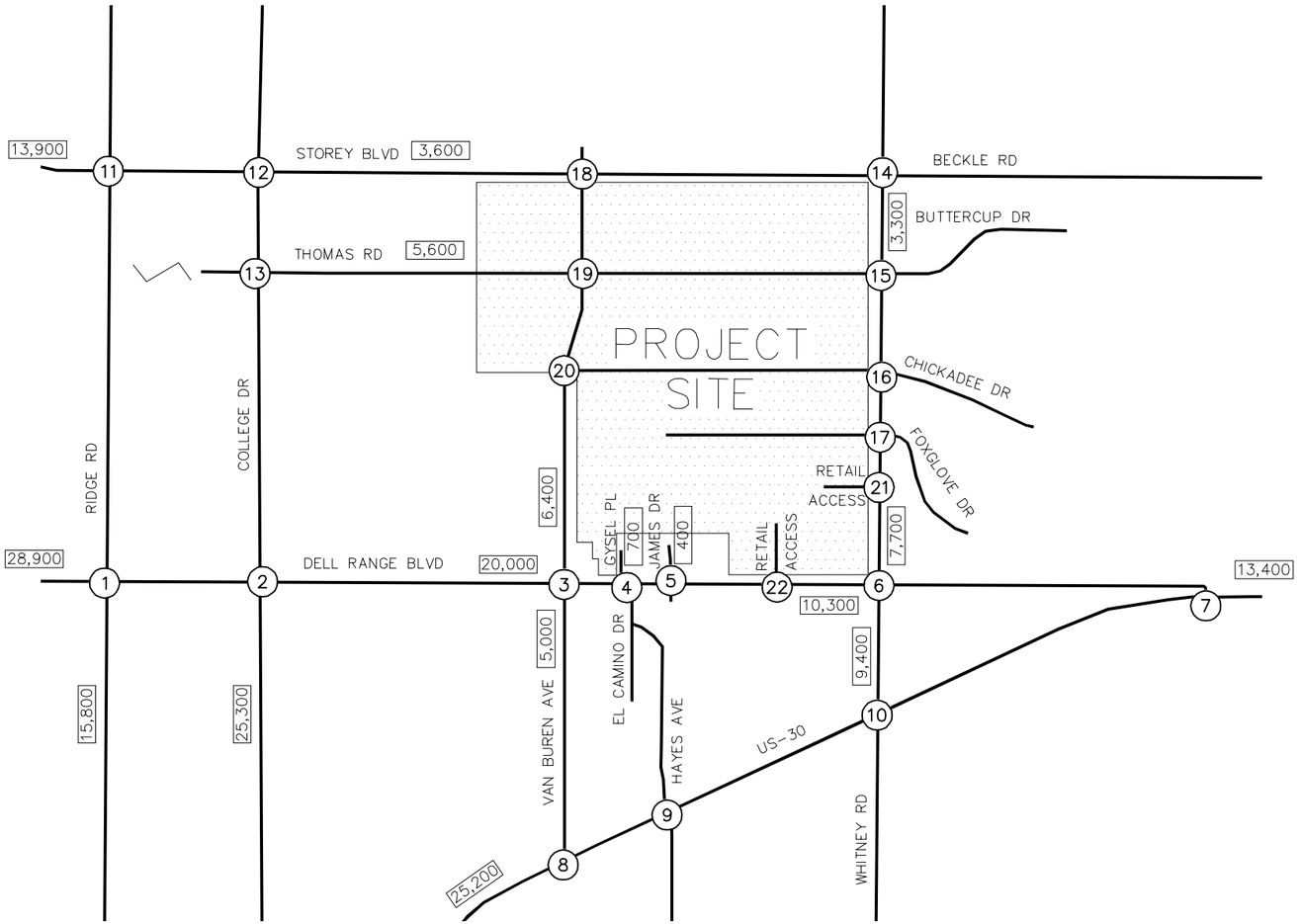
XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

[XX,X00] Estimated Daily Traffic Volume

WHITNEY RANCH
2022 BACKGROUND PLUS PROJECT TRAFFIC VOLUMES

FIGURE 10

Kimley»Horn

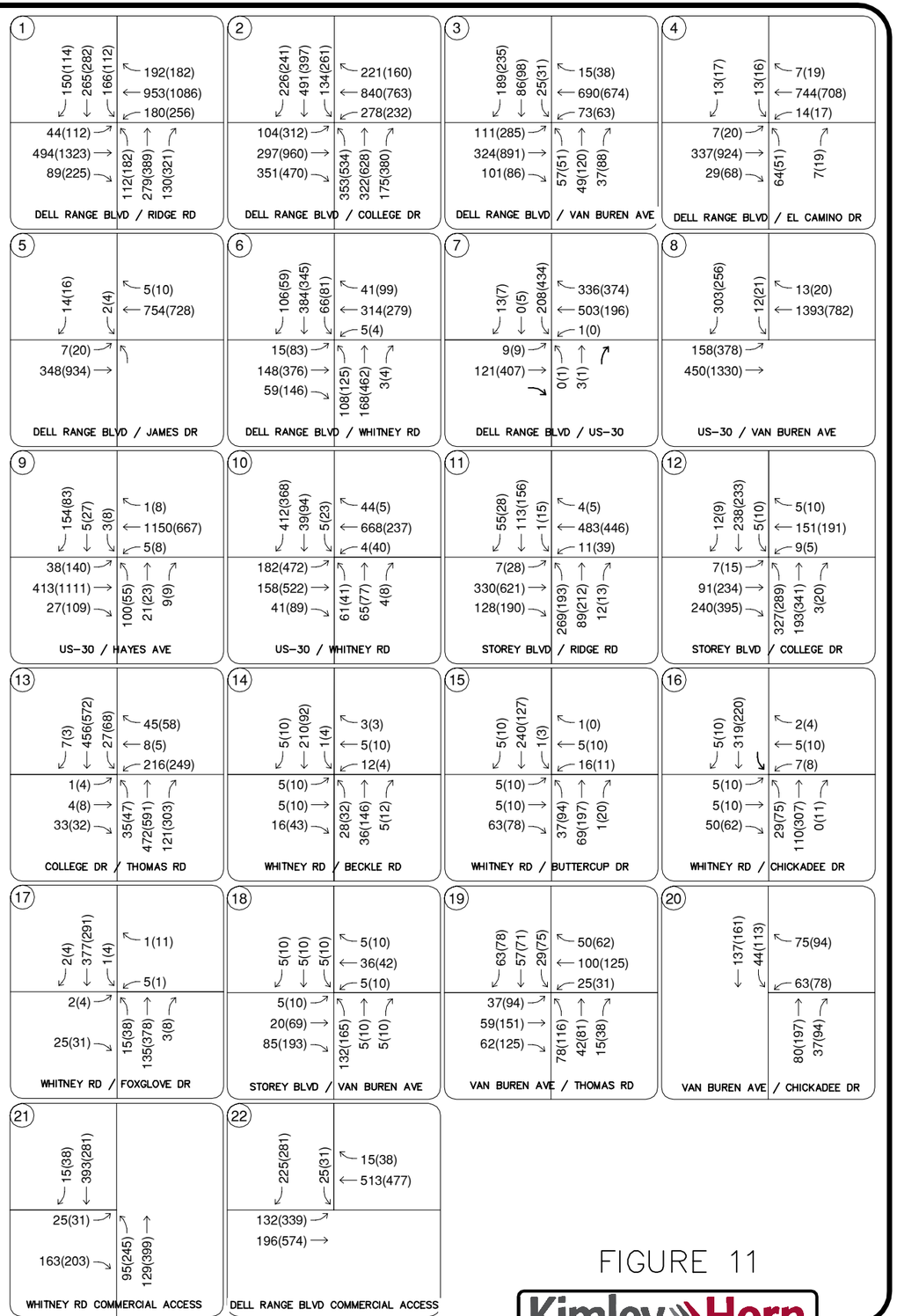


LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume



WHITNEY RANCH
2040 BACKGROUND PLUS PROJECT TRAFFIC VOLUMES

FIGURE 11

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2022 and 2040 development horizons at the identified key intersection and access driveways. Intersection numbers 1-10 were analyzed in the short-term horizon analysis due to the level of development being built by 2022 and the street network expected to exist. Intersection numbers 1-17 as well as the project constructed internal intersection numbers 18-22 were analyzed in the long-term horizon analysis. The acknowledged source for determining overall capacity is the current edition of the *Highway Capacity Manual (HCM)*[2].

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways in this study area, typical standard traffic engineering procedure recommends overall intersection LOS D and movement/approach LOS E as the minimum threshold for acceptable operations. **Table 3** shows the definition of level of service for signalized and unsignalized intersections.

Table 3 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Definitions provided from the Highway Capacity Manual, Special Report 209, Transportation Research Board, 2010.

[2] Transportation Research Board, *Highway Capacity Manual*, Special Report 209, Washington DC, 2010.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the level of service (LOS) for a two-way stop controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service for a two-way stop-controlled intersection is not defined for the intersection as a whole. Level of service for a signalized and all-way stop controlled intersection is defined for each approach and for the intersection.

5.2 Key Intersection Operational Analysis

Calculations for the level of service at the key intersections and project access driveways for the study area are provided in **Appendix D**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 2.** The signalized intersection analysis for the Dell Range Boulevard/Ridge Road and Dell Range Boulevard/College Drive intersections utilizes the observed cycle lengths of 100 seconds with existing phasing and timing. Synchro traffic analysis software was used to analyze the study area and access roadway intersections. The Synchro Highway Capacity Manual (HCM) methodology reports were used to analyze intersection delay and level of service.

Dell Range Boulevard and Ridge Road (#1)

The Dell Range Boulevard and Ridge Road intersection currently operates under traffic signal control with protected-permitted left phasing on all four approaches. This intersection currently operates acceptably with LOS C during the peak hours. With the addition of project traffic and the existing lane configuration, the intersection is expected to continue to operate acceptably at LOS D or better during the morning and afternoon peak hours in 2022. It is anticipated that a second northbound through lane and a westbound right turn lane will be needed at this intersection by 2040 in order to achieve acceptable levels of service. With these improvements in 2040, the intersection is expected to operate acceptably with LOS C during the morning peak hour and LOS D during the afternoon peak hour. **Table 4** provides the results of the level of service at this intersection.

Table 4 – Dell Range Boulevard and Ridge Road (#1) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing	28.0	C	30.4	C
2022 Background	33.5	C	33.2	C
2022 Background Plus Project	31.7	C	36.4	D
2040 Background	32.4	C	37.3	D
2040 Background Plus Project #	33.4	C	52.5	D

= Two Northbound Through Lanes and a Westbound Right Turn Lane

Dell Range Boulevard and College Drive (#2)

The intersection of Dell Range Boulevard and College Drive currently operates under signal control with protected-permitted left turn phasing on all four approaches. With this control, this intersection currently operates acceptably with LOS C during the morning peak hour and LOS D during the afternoon peak hour. It is anticipated that two eastbound through lanes will be needed by 2022. With this improvement and the addition of project traffic, the intersection is expected to continue to operate acceptably at LOS D during the morning and afternoon peak hours in 2022.

By 2040, it is anticipated that Dell Range Boulevard will need to provide two through lanes in each direction through this intersection. In addition, northbound dual left turn lanes, a northbound right turn lane, a westbound right turn lane and a southbound right turn lane may be needed if future traffic volumes are realized. With these improvements, this intersection is anticipated to operate acceptably during the peak hours in 2040. **Table 5** provides the results of the level of service at this intersection.

Table 5 – Dell Range Boulevard and College Drive (#2) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing	28.8	C	36.8	D
2022 Background	34.7	C	42.3	D
2022 Background Plus Project #	37.2	D	40.9	D
2040 Background	46.8	D	88.1	F
2040 Background Plus Project ##	31.4	C	52.7	D

= Two Eastbound Through Lanes
= Northbound Dual Left Turn Lanes, Northbound Right Turn Lane, Westbound Right Turn Lane, and Southbound Right Turn Lane

Dell Range Boulevard and Van Buren Avenue (#3)

The intersection of Dell Range Boulevard and Van Buren Avenue currently operates with stop control along the northbound and southbound Van Buren Avenue approaches. All movements at this intersection currently operate acceptably with LOS B or better during the morning and afternoon peak hours under existing conditions. With Whitney Ranch development of filings 1 and 2 in 2022, it is anticipated that this intersection will need to be signalized. Northbound and southbound left turn lanes were also included. With this improvement, the intersection is expected to operate acceptably at LOS B during both peak hours in 2022.

By 2040, Dell Range Boulevard is anticipated to provide two through lanes in each direction between College Drive and Van Buren Avenue. With these improvements, the intersection is expected to operate acceptably with LOS D or better during the peak hours in 2040. **Table 6** provides the results of the level of service analysis for this intersection.

Table 6 – Dell Range Boulevard and Van Buren Avenue (#3) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Eastbound Left	8.2	A	8.1	A
Westbound Left	8.1	A	8.7	A
Northbound Approach	13.8	B	14.9	B
Southbound Approach	12.8	B	12.7	B
2022 Background				
Eastbound Left	8.2	A	8.2	A
Westbound Left	8.1	A	8.8	A
Northbound Approach	14.5	B	15.6	C
Southbound Approach	13.3	B	13.0	B
2022 Background Plus Project #	23.0	C	17.0	B
2040 Background				
Eastbound Left	8.5	A	8.3	A
Westbound Left	8.0	A	9.2	A
Northbound Approach	14.6	B	17.2	C
Southbound Approach	13.6	B	14.4	B
2040 Background Plus Project ##	23.5	C	43.5	D

= Traffic Signal and Northbound and Southbound Left Turn Lanes
= Eastbound Continuous Right Turn Lane

Dell Range Boulevard and Gysel Place/El Camino Drive (#4)

The intersection of Dell Range Boulevard and Gysel Place/El Camino Dive currently operates with stop control along the northbound and southbound approaches. As mentioned previously, Gysel Place (north leg) and El Camino Drive (south leg) are offset by approximately 130 feet but this intersection is being analyzed as one four-leg intersection rather than two T-intersections. With this control and this configuration, all movements currently operate acceptably with LOS B or better during the peak hours. With the addition of project traffic and the existing lane configurations, all movements at this intersection are expected to operate acceptably during the peak hours in both 2022 and 2040. Therefore, no improvements are anticipated to be needed at this intersection. **Table 7** provides the results of the level of service analysis for this intersection.

Table 7 – Dell Range Boulevard and Gysel Place/El Camino Drive (#4) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Eastbound Left	0.0	A	8.0	A
Westbound Left	7.6	A	8.5	A
Northbound Approach	12.2	B	13.8	B
Southbound Approach	0.0	A	10.3	B
2022 Background				
Eastbound Left	0.0	A	8.1	A
Westbound Left	7.7	A	8.6	A
Northbound Approach	12.5	B	14.4	B
Southbound Approach	0.0	A	10.5	B
2022 Background Plus Project				
Eastbound Left	8.2	A	8.6	A
Westbound Left	7.7	A	8.7	A
Northbound Approach	14.0	B	26.5	D
Southbound Approach	11.6	B	12.4	B
2040 Background				
Eastbound Left	0.0	A	8.2	A
Westbound Left	7.7	A	8.9	A
Northbound Approach	13.7	B	15.5	C
Southbound Approach	0.0	A	10.7	B
2040 Background Plus Project				
Eastbound Left	9.5	A	9.5	A
Westbound Left	8.1	A	13.2	B
Northbound Approach	19.8	C	36.6	E
Southbound Approach	16.3	C	23.3	C

Dell Range Boulevard and James Drive (#5)

The Dell Range Boulevard and James Drive intersection currently operates with stop control along the southbound James Drive approach. All movements at this intersection currently operate acceptably with LOS B or better during the peak hours under existing conditions. With the addition of project traffic and the existing lane configurations, all movements at this intersection are expected to operate acceptably during the peak hours in both 2022 and 2040. **Table 8** provides the results of the level of service analysis for this intersection.

Table 8 – Dell Range Boulevard and James Drive (#5) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Northbound Approach	0.0	A	12.6	B
Eastbound Left	0.0	A	0.1	A
Southbound Approach	10.9	B	0.0	A
2022 Background				
Northbound Approach	0.0	A	12.9	B
Eastbound Left	0.0	A	0.1	A
Southbound Approach	11.1	B	0.0	A
2022 Background Plus Project				
Northbound Approach	0.0	A	13.1	B
Eastbound Left	0.0	A	0.1	A
Southbound Approach	11.2	B	0.0	A
2040 Background				
Northbound Approach	0.0	A	13.7	B
Eastbound Left	0.0	A	0.0	A
Southbound Approach	12.2	B	13.7	B
2040 Background Plus Project				
Northbound Approach	0.0	A	22.4	C
Eastbound Left	9.5	A	9.5	A
Southbound Approach	15.2	C	16.4	C

Whitney Road and Dell Range Boulevard (#6)

The intersection of Whitney Road and Dell Range Boulevard currently operates with stop control along the northbound and southbound Whitney Road approaches. All movements at this intersection currently operate acceptably with LOS E or better during the morning and afternoon peak hours under existing conditions. Prior to the addition of project traffic, the northbound approach of this intersection is anticipated to operate at LOS F during the afternoon peak hour in 2022. It is anticipated that Dell Range Boulevard would need to be improved with a two-way left-turn lane between James Drive and through this intersection to allow for two stage left turns from Whitney Road in 2022. Additionally, a northbound left turn lane should be provided along Whitney Road in 2022. With these improvements, all movements at this intersection are expected to operate acceptably during the peak hours in 2022.

This intersection was also studied as a single lane, unsignalized roundabout in 2022 and 2040. With this control, the intersection is expected to operate acceptably with LOS A in the 2022 peak hours, and LOS E or better during the 2040 peak hours. Therefore, a traffic signal may be the preferred control type for this intersection. This intersection meets the four-hour signal warrants with projected 2040 traffic volumes. As a result, this intersection was analyzed under signal control in 2040. Westbound and southbound left turn lanes were also included in the 2040 analysis. With these improvements, the intersection is expected to operate acceptably with LOS B during morning peak hour and LOS C during the afternoon peak hour in 2040. **Table 9** provides the results of the level of service analysis for this intersection.

Table 9 – Whitney Road and Dell Range Boulevard (#6) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Eastbound Left	7.8	A	7.7	A
Westbound Left	0.3	A	0.2	A
Northbound Approach	25.4	D	40.9	E
Southbound Approach	15.5	C	14.5	B
2022 Background				
Eastbound Left	7.8	A	7.7	A
Westbound Left	0.3	A	0.2	A
Northbound Approach	30.2	D	56.8	F
Southbound Approach	16.6	C	15.3	C
2022 Background Plus Project #				
Eastbound Left	7.8	A	7.8	A
Westbound Left	0.3	A	0.2	A
Northbound Left	20.3	C	17.2	C
Northbound Through/Right	10.9	B	14.6	B
Southbound Approach	14.0	B	12.7	B
2022 Background Plus Project (Roundabout)	7.1	A	7.3	A
2040 Background				
Eastbound Left	7.9	A	7.8	A
Westbound Left	0.2	A	0.2	A
Northbound Approach	36.1	E	124.3	F
Southbound Approach	18.1	C	17.0	C
2040 Background Plus Project ##	17.3	B	22.7	C
2040 Background Plus Project (Roundabout)	19.5	C	47.6	E

= EB and WB TWLTL, NB Left Turn Lane; ## = Signalized, WB and SB Left Turn Lanes

Dell Range Boulevard and US-30 (#7)

The Dell Range Boulevard and US-30 intersection currently operates with stop control along the northbound and southbound approaches. All movements at this intersection currently operate acceptably with LOS C or better during the morning and afternoon peak hours under existing conditions. By 2022, it is anticipated that US-30 will provide two through lanes in each direction and this intersection will have signal control. With this configuration and control, the intersection is anticipated to operate acceptably at LOS B during morning peak hour and LOS C during the afternoon peak hour in 2022. This intersection is expected to continue to operate acceptably during the peak hours in 2040. **Table 10** provides the results of the level of service analysis for this intersection.

Table 10 – Dell Range Boulevard and US-30 (#7) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Northbound Approach	14.6	B	13.4	B
Eastbound Left	8.4	A	7.6	A
Westbound Left	7.4	A	0.0	A
Southbound Approach	16.9	C	23.4	C
2022 Background #	15.0	B	21.9	C
2022 Background Plus Project #	15.4	B	22.6	C
2040 Background #	13.9	B	23.0	C
2040 Background Plus Project #	22.0	C	40.1	D

= Traffic signal control with two lanes EB and WB

US-30 and Van Buren Avenue (#8)

The existing T-intersection of US-30 and Van Buren Avenue currently operates with stop control on the southbound Van Buren Avenue approach. With this control, all movements at this intersection currently operate acceptably with LOS C or better during the peak hours under existing conditions. By 2022 it is expected that this intersection will be signalized. With the addition of project traffic and a traffic signal, the intersection is expected to operate acceptably during the peak hours in 2022 and 2040. **Table 11** provides the results of the level of service analysis for this intersection.

Table 11 – US-30 and Van Buren Avenue (#8) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Eastbound Left	10.8	B	8.7	A
Southbound Approach	17.2	C	12.4	B
2022 Background #	8.8	A	9.0	A
2022 Background Plus Project #	7.0	A	7.1	A
2040 Background #	18.3	B	12.1	B
2040 Background Plus Project #	5.0	A	6.9	A

= Signalized

US-30 and Hayes Avenue (#9)

The intersection of US-30 and Hayes Avenue currently operates with stop control along the northbound and southbound Hayes Avenue approaches. All movements at this intersection currently operate acceptably with the exception of the northbound approach during the afternoon peak hour. It is anticipated that this intersection will have signal control by 2022. With this improvement, this intersection is anticipated to continue to operate acceptably during the peak hours throughout the 2040 horizon. **Table 12** provides the results of the level of service analysis for this intersection.

Table 12 – US-30 and Hayes Avenue (#9) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Eastbound Left	9.5	A	8.3	A
Westbound Left	7.8	A	8.9	A
Northbound Approach	42.3	E	90.0	F
Southbound Approach	14.2	B	24.4	C
2022 Background #	16.6	B	8.6	A
2022 Background Plus Project #	16.8	B	8.8	A
2040 Background #	19.4	B	13.5	B
2040 Background Plus Project #	18.4	B	7.9	A

= Signalized

US-30 and Whitney Road (#10)

The US-30 and Whitney Road intersection currently operates with stop control along the northbound and southbound Whitney Road approaches. The northbound left turn movements and the southbound approach currently operate with unsatisfactory LOS during the afternoon peak hour. It is anticipated that this intersection will operate with signal control by 2022. With the addition of project traffic and a traffic signal, this intersection is anticipated to operate acceptably during the peak hours throughout the 2040 horizon. **Table 13** provides the results of the level of service analysis for this intersection.

Table 13 – US-30 and Whitney Road (#10) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Eastbound Left	8.8	A	7.9	A
Westbound Left	7.6	A	8.4	A
Northbound Left	57.0	F	74.7	F
Northbound Through/Right	21.8	C	32.6	C
Southbound Approach	24.3	C	64.8	F
2022 Background #	20.4	C	22.9	C
2022 Background Plus Project #	23.5	C	22.9	C
2040 Background #	23.3	C	22.1	C
2040 Background Plus Project #	32.7	C	45.0	D

= Signalized

Storey Boulevard and Ridge Road (#11)

The Storey Boulevard and Ridge Road intersection currently operates with stop control on the eastbound and westbound Storey Boulevard approaches. Movements along the eastbound and westbound approaches at this intersection currently are experiencing long delays and LOS F during the peak hours under the existing intersection configuration. As a result, a signal warrant analysis was performed and it was determined that this intersection meets the four-hour signal warrant with future projected traffic volumes. It is understood that this intersection is close to meeting signal warrants today and will be signalized by the City in the near future. Under signal control and the existing lane configurations, this intersection is expected to operate acceptably with LOS B during the peak hours in 2040. **Table 14** provides the results of the level of service analysis for this intersection.

Table 14 – Storey Boulevard and Ridge Road (#11) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Northbound Left	8.1	A	8.1	A
Eastbound Left	-	-	124.9	F
Eastbound Through	52.5	F	167.7	F
Eastbound Right	9.5	A	10.3	B
Westbound Left	64.6	F	-	-
Westbound Through	99.7	F	73.7	F
Westbound Right	8.7	A	9.5	A
Southbound Left	7.4	A	7.7	A
2040 Background				
Northbound Left	8.3	A	8.1	A
Eastbound Left	-	-	672.6	F
Eastbound Through	108.1	F	304.0	F
Eastbound Right	9.8	A	10.5	B
Westbound Left	-	-	-	-
Westbound Through	247.7	F	97.0	F
Westbound Right	8.8	A	9.5	A
Southbound Left	7.4	A	7.8	A
2040 Background Plus Project #	18.2	B	18.3	B

= Signalized

Storey Boulevard and College Drive (#12)

The Storey Boulevard and College Road intersection currently operates with stop control on the eastbound and westbound Storey Boulevard approaches. All movements at this intersection are currently operating acceptably with LOS D or better during the peak hours under existing conditions. It is anticipated that a traffic signal will be needed upon buildout of the proposed development. Under signal control and the addition of a westbound left turn lane, this intersection is expected to operate acceptably at LOS B during the morning peak hour and LOS C during the afternoon peak hour in 2040. **Table 15** provides the results of the level of service analysis for this intersection.

Table 15 – Storey Boulevard and College Drive (#12) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Northbound Left	8.3	A	8.2	A
Eastbound Left	22.3	C	24.4	C
Eastbound Through	21.4	C	22.5	C
Eastbound Right	10.8	B	11.7	B
Westbound Approach	27.5	D	28.1	D
Southbound Left	0.0	A	7.9	A
2040 Background				
Northbound Left	8.7	A	8.5	A
Eastbound Left	30.8	D	36.1	D
Eastbound Through	28.6	D	31.0	D
Eastbound Right	11.7	B	13.7	B
Westbound Approach	32.1	D	29.7	D
Southbound Left	7.7	A	8.1	A
2040 Background Plus Project #	12.6	B	22.3	C

= Signalized, WB Left Turn Lane

College Drive and Thomas Road (#13)

The College Drive and Thomas Road intersection currently operates with stop control on the eastbound and westbound Thomas Road approaches. All movements at this intersection are currently operating acceptably with LOS D or better during the peak hours under existing conditions. It is anticipated that a traffic signal will be needed upon buildout of the proposed development. Under signal control and the addition of eastbound and westbound left turn lanes, this intersection is expected to operate acceptably during the peak hours in 2040. **Table 16** provides the results of the level of service analysis for this intersection.

Table 16 – College Drive and Thomas Road (#13) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Northbound Left	8.2	A	8.6	A
Eastbound Approach	12.6	B	18.9	C
Westbound Approach	24.8	C	27.9	D
Southbound Left	8.2	A	8.4	A
2040 Background				
Northbound Left	8.5	A	9.0	A
Eastbound Approach	13.7	B	21.7	C
Westbound Approach	29.7	D	38.7	E
Southbound Left	8.5	A	9.0	A
2040 Background Plus Project #	11.5	B	36.0	D

= Signalized

Whitney Road and Beckle Road (#14)

The Whitney Road and Beckle Road intersection currently operates with stop control on the eastbound and westbound approaches. All movements at this intersection are currently operating acceptably with LOS B or better during the peak hours under existing conditions. With the addition of project traffic and the existing lane configurations, all movements at this intersection are expected to continue to operate acceptably during the morning and afternoon peak hours in 2040. **Table 17** provides the results of the level of service analysis for this intersection.

Table 17 – Whitney Road and Beckle Road (#14) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Northbound Left	7.6	A	7.4	A
Eastbound Approach	9.3	A	8.8	A
Westbound Approach	10.0	B	9.8	A
Southbound Left	7.3	A	7.6	A
2040 Background				
Northbound Left	7.7	A	7.4	A
Eastbound Approach	10.6	B	10.5	B
Westbound Approach	10.4	B	10.6	B
Southbound Left	7.3	A	7.6	A
2040 Background Plus Project				
Northbound Left	7.8	A	7.5	A
Eastbound Approach	10.3	B	10.1	B
Westbound Approach	11.1	B	11.3	B
Southbound Left	7.3	A	7.6	A

Whitney Road and Buttercup Drive (#15)

The intersection of Whitney Road and Buttercup Drive currently operates with stop control on the westbound Buttercup Drive approach. All movements at this intersection are currently operating acceptably with LOS B or better during the peak hours under existing conditions. A west leg of this intersection, Thomas Road, will be constructed with development of the project site. With the addition of project traffic and the new west leg, all movements at this intersection are expected to continue to operate acceptably with LOS C or better during the morning and afternoon peak hours in 2040. **Table 18** provides the results of the level of service analysis for this intersection.

Table 18 – Whitney Road and Buttercup Drive (#15) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Westbound Approach	10.0	B	10.1	B
Southbound Left	7.3	A	7.6	A
2040 Background				
Westbound Approach	10.2	B	10.3	B
Southbound Left	7.3	A	7.6	A
2040 Background Plus Project				
Northbound Left	7.9	A	7.7	A
Eastbound Approach	10.6	B	11.0	B
Westbound Approach	13.0	B	15.8	C
Southbound Left	7.4	A	7.7	A

Whitney Road and Chickadee Drive (#16)

The intersection of Whitney Road and Chickadee Drive currently operates with stop control on the westbound Chickadee Drive approach. All movements at this intersection are currently operating acceptably with LOS B or better during the peak hours under existing conditions. A west leg of this intersection will be constructed with development of the project site. With the addition of project traffic and the new west leg, all movements at this intersection are expected to continue to operate acceptably with LOS C or better during the morning and afternoon peak hours in 2040. **Table 19** provides the results of the level of service analysis for this intersection.

Table 19 – Whitney Road and Chickadee Drive (#16) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Westbound Approach	10.1	B	10.2	B
2040 Background				
Westbound Approach				
Southbound Left	10.0	B	10.1	B
2040 Background Plus Project				
Northbound Left	8.1	A	7.9	A
Eastbound Approach	11.3	B	12.5	B
Westbound Approach	13.4	B	17.1	C

Whitney Road and Foxglove Drive (#17)

The intersection of Whitney Road and Foxglove Drive currently operates with stop control on the westbound Foxglove Drive approach. All movements at this intersection are currently operating acceptably with LOS A during the peak hours under existing conditions. A west leg of this intersection will be constructed with development of the project site. With the addition of project traffic and the new west leg, all movements at this intersection are expected to continue to operate acceptably with LOS B or better during the morning and afternoon peak hours in 2040. **Table 20** provides the results of the level of service analysis for this intersection.

Table 20 – Whitney Road and Foxglove Drive (#17) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2017 Existing				
Westbound Approach	9.6	A	9.5	A
Southbound Left	7.3	A	7.6	A
2040 Background				
Westbound Approach	10.1	B	9.4	A
Southbound Left	7.3	A	7.6	A
2040 Background Plus Project				
Northbound Left	8.2	A	8.0	A
Eastbound Approach	11.1	B	11.3	B
Westbound Approach	13.6	B	11.5	B
Southbound Left	7.5	A	8.2	A

Storey Boulevard and Van Buren Avenue (#18)

The intersection of Storey Boulevard and Van Buren Avenue will be constructed with development of Whitney Ranch. Stop control should be provided along Van Buren Avenue and single shared all movement lanes are expected to be sufficient on all four approaches upon buildout of the project site. With this control and lane configurations, all movements are anticipated to operate acceptably during the peak hours in 2040 with the addition of project traffic. An additional analysis was performed with this intersection under roundabout control. This intersection is expected to operate acceptably with LOS A during the peak hours in 2040 under roundabout control. **Table 21** provides the results of the level of service analysis for this intersection.

Table 21 – Storey Boulevard and Van Buren Avenue (#18) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2040 Background Plus Project (TWSC)				
Northbound Approach	10.4	B	13.0	B
Eastbound Approach	7.3	A	7.3	A
Westbound Approach	7.5	A	7.8	A
Southbound Approach	9.4	A	10.5	B
2040 Background Plus Project (Roundabout)	4.4	A	5.6	A

Van Buren Avenue and Thomas Road (#19)

The Van Buren Avenue and Thomas Road intersection will be constructed with development of Whitney Ranch. This intersection can operate with all-way stop control or a single lane roundabout. With either control condition, all movements are anticipated to operate acceptably during the peak hours in 2040 with the addition of project traffic. This intersection is expected to operate acceptably with LOS A during the peak hours in 2040 under roundabout control. **Table 22** provides the results of the level of service analysis for this intersection.

Table 22 – Van Buren Avenue and Thomas Road (#19) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2040 Background Plus Project (AWSC)	9.3	A	16.2	C
2040 Background Plus Project (Roundabout)	5.6	A	8.5	A

Van Buren Avenue and Chickadee Drive (#20)

The T-intersection of Van Buren Avenue and Chickadee will be constructed with development of the project site. The westbound approach of this intersection should be stop controlled. With this control and lane configurations, all movements are anticipated to operate acceptably during the peak hours in 2040 with the addition of project traffic. An additional analysis was performed with this intersection under roundabout control. This intersection is expected to operate acceptably with LOS A during the peak hours in 2040 under roundabout control. **Table 23** provides the results of the level of service analysis for this intersection.

Table 23 – Van Buren Avenue and Chickadee Drive (#20) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2040 Background Plus Project (TWSC)				
Westbound Approach	10.9	B	15.9	C
Southbound Approach	7.6	A	8.2	A
2040 Background Plus Project (Roundabout)	4.9	A	6.6	A

Whitney Road and Commercial Access (#21)

The T-intersection Commercial Access along Whitney Road will be constructed with development of the project site. The westbound approach of this access intersection should stop controlled while providing a left turn lane and a right turn lane. The northbound approach should provide a left turn lane and one through lane while the southbound approach provides a shared through/right turn lane. With this control and lane configurations, all movements are expected to operate acceptably during the peak hours in 2040 with the addition of project traffic. **Table 24** provides the results of the level of service analysis for this intersection.

Table 24 – Whitney Road and Commercial Access (#21) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2040 Background Plus Project				
Eastbound Left	12.1	B	20.0	C
Eastbound Right	13.1	B	12.3	B
Northbound Left	8.5	A	8.8	A

Dell Range Boulevard and Commercial Access (#22)

The T-intersection Commercial Access along Dell Range Boulevard will be constructed with development of Whitney Ranch. The eastbound approach of this access intersection should provide a left turn lane and one through lane while the westbound approach provides a shared through/right turn lane. The southbound approach should be stop controlled while providing a left turn lane and a right turn lane. With this control and lane configurations, all movements are expected to operate acceptably during the peak hours in 2040 with the addition of project traffic. **Table 25** provides the results of the level of service analysis for this intersection.

Table 25 – Dell Range Boulevard and Commercial Access (#22) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2040 Background Plus Project				
Eastbound Left	9.3	A	10.6	B
Southbound Left	14.2	B	37.2	E
Southbound Right	17.2	C	19.8	C

5.3 Queuing Analysis

Queuing analysis was conducted for the study area intersections per City of Cheyenne standards and requirements. Results were obtained from the 95th percentile queue lengths obtained from the Synchro analysis. Queue analysis worksheets at the signalized intersections are provided in **Appendix E**. Queue lengths are shown on the worksheets for the unsignalized intersections on the operational analysis sheets within **Appendix D**. Results of the queuing analysis and recommendations at the study area intersections are provided in **Table 26**.

Table 26 – Queuing Analysis Results and Recommendations

Intersection Turn Lane	Existing Turn Lane Length (feet)	2022 Calculated Queue (feet)	2022 Recommended Length (feet)	2040 Calculated Queue (feet)	2040 Recommended Length (feet)
Dell Range Blvd & Ridge Road (1)					
Eastbound Left	150' T	65'	150'	60'	150'
Westbound Left	150' T	60'	150'	234'	150' T
Westbound Right	DNE	-	-	92'	**100'**
Northbound Left	125' T	108'	125'	243'	125' T
Northbound Right	125'	48'	125'	288'	**200'**
Southbound Left	100' T	110'	100'	138'	100' T
Southbound Right	100'	35'	100'	55'	100'
Dell Range Blvd & College Drive (2)					
Eastbound Left	175' T	104'	175'	217'	175' T
Westbound Left	125' T	87'	125'	248'	125' T
Westbound Right	DNE	-	-	29'	**100'**
Northbound Left	125' T	326'	125' T	214'	**225' DL**
Northbound Right	DNE	-	-	254'	**250'**
Southbound Left	100' T	190'	100' T	323'	100' T
Southbound Right	DNE	**-**	-	100'	**100'**
Dell Range Blvd & Van Buren Avenue (3)					
Eastbound Left	TWLTL	44'	TWLTL	222'	TWLTL
Westbound Left	TWLTL	25'	TWLTL	39'	TWLTL
Northbound Left	DNE	43'	**100'**	59'	100'
Southbound Left	DNE	25'	**100'**	49'	100'
Dell Range Blvd & Whitney Road (6)					
Eastbound Left	125'	25'	125'	55'	125'
Westbound Left	DNE	-	-	25'	**100'**
Northbound Left	DNE	36'	**100'**	88'	100'
Southbound Left	DNE	-	-	58'	**100'**
Dell Range Blvd & US-30 (7)					
Eastbound Left	350'	25'	350'	25'	350'
Westbound Left	325'	25'	325'	25'	325'

US-30 & Van Buren Ave (8)					
Eastbound Left	100’	45’	**100’**	238’	**250’**
US-30 & Hayes Ave (9)					
Eastbound Left	100’	44’	100’	41’	100’
Eastbound Right	150’	25’	150’	25’	150’
Westbound Left	25’	25’	25’	25’	**100**’
US-30 & Whitney Road (10)					
Eastbound Left	375’ T	75’	375’ T	408’	375’ T
Westbound Left	375’ T	25’	375’ T	25’	375’ T
Northbound Left	100’ T	45’	100’ T	72’	100’ T
Storey Boulevard & Ridge Road (11)					
Eastbound Left	125’ T	-	125’	25’	125’
Eastbound Right	100’	-	100’	28’	100’
Westbound Left	125’ T	-	125’	25’	125’
Westbound Right	100’	-	100’	25’	100’
Northbound Left	200’ T	-	200’	197’	200’
Southbound Left	75’	-	75’	25’	75’
Storey Boulevard & College Road (12)					
Eastbound Left	100’ T	-	100’	25’	100’
Eastbound Right	100’	-	100’	126’	**175’**
Westbound Left	DNE	-	-	25’	**100’**
Northbound Left	160’ T	-	160’	187’	160’ T
Southbound Left	150’ T	-	150’	25’	150’
College Drive & Thomas Road (13)					
Eastbound Left	DNE	-	-	25’	**100’**
Westbound Left	DNE	-	-	269’	**275’**
Northbound Left	275’	-	275’	25’	275’
Southbound Left	TWLTL	-	TWLTL	90’	TWLTL
Whitney Road Commercial Access (21)					
Eastbound Left	DNE	-	-	25’	**100’**
Northbound Left	DNE	-	-	25’	**100’**
Dell Ridge Boulevard Commercial Access (22)					
Eastbound Left	DNE	-	-	50’	**100’**
Southbound Left	DNE	-	-	25’	**100’**

DNE = Does Not Exist; DL = Dual Left Turn Lanes; TWLTL = Two Way Left Turn Lane; T = TWLTL Exists Beyond Left Turn Lane

All new access and roadway intersections should be constructed with the recommended left turn and right turn storage lengths as identified in **Table 26**. The recommended storage lengths that include a "T" indicate that existing storages are not anticipated to meet future storage demands but potential vehicle queues will extend into an existing two way left turn lane.

In the 2022 horizon, the northbound and southbound left turn lanes at the Dell Range Boulevard and Van Buren Avenue intersection (#3) are recommended to provide lengths of 100 feet. The northbound left turn lane at the Dell Range Boulevard and Whitney Road intersection (#6) is recommended at 100 feet.

By the 2040 horizon, there are several other turn lane improvements needed. The existing northbound right turn lane at the intersection of Dell Range Boulevard and Ridge Road (#1) may need to be extended by 2040 to provide 200 feet of storage while the westbound approach may need to provide a 100-foot right turn lane. The northbound approach to the Dell Range Boulevard and College Drive intersection (#2) may need to be improved by 2040 to provide dual left turn lanes with 225 feet of storage, a separate 250-foot right turn lane, a 100-foot westbound right turn lane, and a 100-foot southbound right turn lane. Additional southbound and westbound left turn lanes of 100 feet in length are recommended to be provided at the Dell Range Boulevard and Whitney Road intersection (#6). The eastbound left turn lane at the US-30 and Van Buren Avenue intersection (#8) is recommended at a length of 250 feet. The westbound left turn lane at Dell Range Boulevard and Hayes Avenue (#9) is recommended at 100 feet. The existing eastbound right turn lane at the Storey Boulevard and College Drive intersection (#12) may need to be extended to provide 175 feet of storage. In addition, a 100-foot westbound left turn lane may be needed. At the Thomas Road and College Drive intersection (#13), separate 100-foot eastbound and 275-foot westbound left turn lanes are recommended if Thomas Road provides a connection to the Whitney Ranch project. At the commercial accesses along Dell Range Boulevard (#22) and Whitney Road (#21), 100-foot left turn lanes are recommended for entering traffic movements along the public street. Likewise, separate 100-foot left turn lanes and right turn lanes are recommended for the existing access approach.

5.4 Signal Warrant Analysis

A traffic signal warrant analysis was conducted at the intersections of Dell Range Boulevard/Van Buren Avenue, Dell Range Boulevard/Whitney Road, US-30/Hayes Avenue, US-30/Whitney Road, Storey Boulevard/Ridge Road, Storey Boulevard/College Drive, and College Drive/Thomas Road due to long delays currently being experienced or expected to be experienced with left turn and through movements from stop controlled minor approaches. The most restrictive form of traffic control is the traffic signal. A traffic signal not only provides traffic control and direction to motorists, it also takes on the active role of allocating and assigning time to each direction of travel. Therefore, the installation of traffic signals must be uniform across the entire nation to maintain the proper respect for the devices, as well as to ensure the device benefits the public. The Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) 2009 establishes the standards and the basic principles governing the design, usage, and installation of all traffic control devices (including the traffic signal). The determination to install a traffic control signal should be based on an engineering study of existing traffic conditions, pedestrian characteristics, and the geometry of the intersection in question.

Signal warrant evaluations were conducted in accordance with the requirements set forth in the MUTCD 2009. The intent of this analysis was to conduct an evaluation of traffic and roadway conditions in order to determine if a traffic signal may be the appropriate form of traffic control at the subject intersections. Further study will be required in the future after traffic volumes are realized since the traffic signal warrant application is to be based on actual traffic conditions.

The MUTCD 2009, provides a series of signal warrants that define the minimum conditions under which the installation of a traffic control signal should be considered. The installation of a traffic control signal, even when justified by existing conditions, can be improperly designed, placed, and operated, causing excessive delay, driver disregard and increases in collision frequency. The MUTCD states; "*The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal*." As such, consideration should be given to providing alternative, less restrictive, forms of traffic control; including the installation of multi-way STOP sign control, roundabouts, and turning movement restrictions. Although most of the steps in conducting the traffic signal warrant analysis are quantitative, the final step of recommending whether a signal should be considered for installation involves a degree of qualitative assessments that require the use of engineering judgment.

The justification for the installation of a traffic signal at an intersection is based on warrants stated in the MUTCD 2009. The decision to install a signal should not be based solely upon the warrants, since the installation of traffic signals may increase certain types of collisions. Delay, congestion, approach condition, driver confusion, future land use or other evidence of the need for right-of-way assignment beyond that which could be provided by stop signs must be demonstrated.

When the 85th percentile speed of traffic on the major street exceeds 40 miles per hour in either an urban or rural area, or when the study intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes evaluated may be 70 percent of the stated minimums. For reference, the Dell Range Boulevard/Van Buren Avenue, Dell Range Boulevard/Whitney Road, Storey Boulevard/Ridge Road, Storey Boulevard/College Drive, and College Drive/Thomas Road intersections are not within the 70 percent volume threshold due to the posted speed limits at these locations being 40 miles per hour or less. The intersections of US-30/Hayes Avenue and US-30/Whitney Road fall within the 70 percent volume threshold.

The installation of a traffic control signal should be considered if one or more of the following traffic signal warrants as outlined within the MUTCD are met:

Warrant 1, Eight-Hour Vehicular Volume
Warrant 2, Four-Hour Vehicular Volume
Warrant 3, Peak Hour Volume
Warrant 4, Pedestrian Volume
Warrant 5, School Crossing
Warrant 6, Coordinated Signal System
Warrant 7, Crash Experience
Warrant 8, Roadway Network
Warrant 9, Intersection Near a Grade Crossing

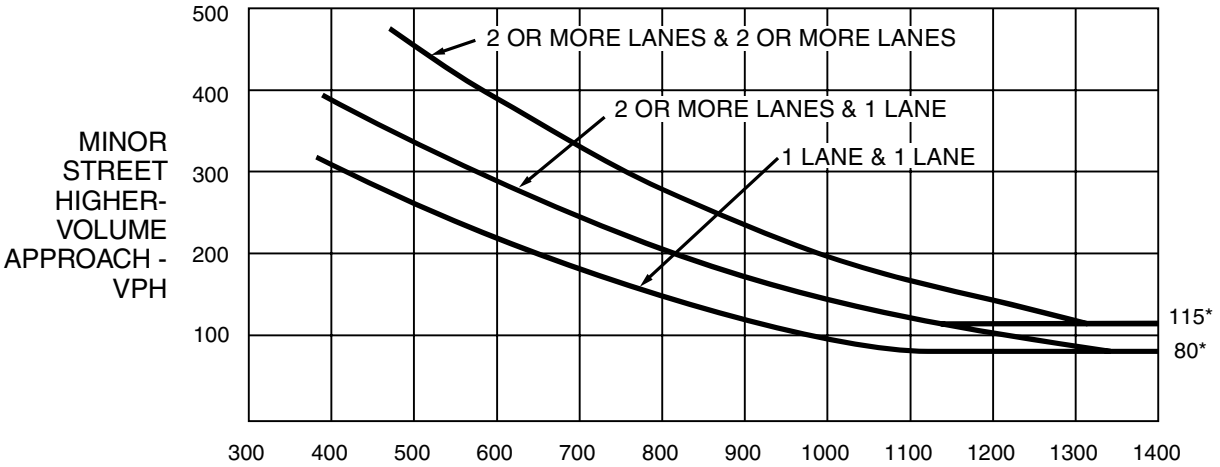
Since this analysis is for a projection of future traffic to determine the likelihood of these intersections meeting traffic volume warrants, the Four-Hour Vehicular Volume (Warrant 2) was

evaluated. These four hours were projected from the morning and afternoon peak hour counts conducted at the intersections with background traffic growth and the addition of project traffic.

Warrant 2, Four-Hour Vehicular Volume

The four-hour vehicular volume warrant is intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The installation of a traffic signal shall be considered if the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor street approach are above the appropriate curve in Figure 4C-1 (MUTCD – see following). The higher volume on the minor street does not have to be on the same approach during each of the four hours. If the posted speed limit or the 85th percentile speed exceeds 40 mph on the major street, or if the intersection lies within the built-up area of an isolated community having a population less than 10,000 people, Figure 4C-2 (MUTCD – see following), which represents a 70 percent factor may be used.

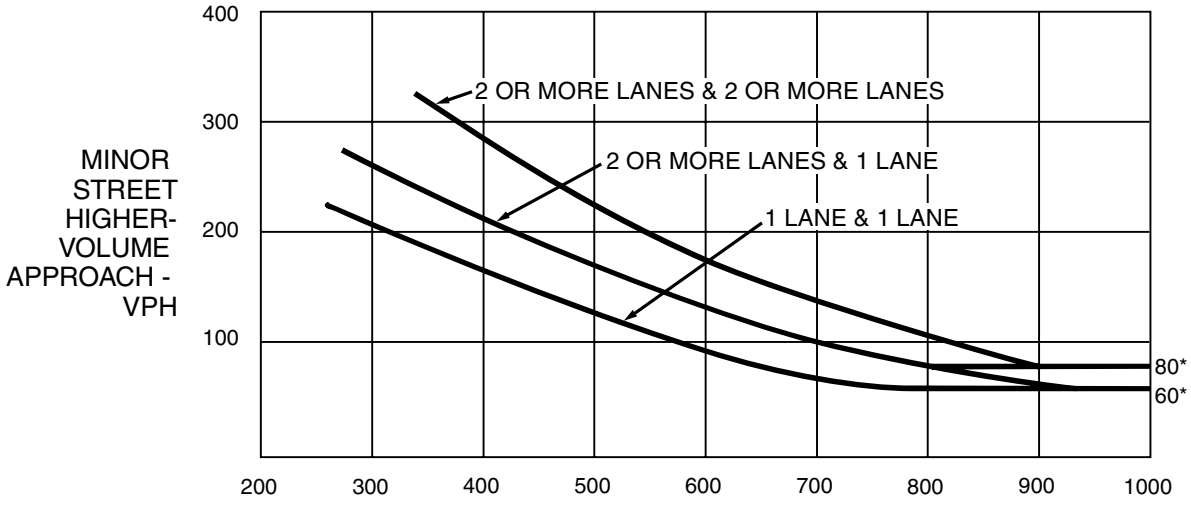
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Traffic Signal Warrant Analysis Results

The following provides an intersection by intersection discussion relative to when traffic signal warrants are anticipated to be met.

Dell Range Boulevard and Van Buren Avenue

The Four-Hour Vehicular Volume signal warrant condition **is satisfied** for the projected 2040 total traffic conditions at the intersection of Dell Range Boulevard and Van Buren Avenue. All four of the hourly data points for 2040 which represent the vehicles per hour on the major street (total of both directions) and the corresponding vehicles per hour on the minor street approach are above the curve in Figure 4C-1 of the MUTCD for the existing combination of dual approach lanes and a single approach lane. The plotted points are shown in **Figure 12**. Therefore, a traffic signal is anticipated to be the appropriate control at this intersection with development of Whitney Ranch.

Dell Range Boulevard and Whitney Road

The Four-Hour Vehicular Volume signal warrant condition **is satisfied** for the projected 2040 total traffic conditions at the intersection of Dell Range Boulevard and Whitney Road. All four of the hourly data points for 2040 which represent the vehicles per hour on the major street (total of both directions) and the corresponding vehicles per hour on the minor street approach are above the curve in Figure 4C-1 of the MUTCD for the existing combination of a single approach lane and a single approach lane. The plotted points are shown in **Figure 13**. Therefore, a traffic signal is anticipated to be the appropriate control at this intersection with continued development of the surrounding area.

Storey Boulevard and Ridge Road

The Four-Hour Vehicular Volume signal warrant condition **is satisfied** for the projected 2040 total traffic conditions at the intersection of Storey Boulevard and Ridge Road. All four of the hourly data points for 2040 which represent the vehicles per hour on the major street (total of both directions) and the corresponding vehicles per hour on the minor street approach are above the curve in Figure 4C-1 of the MUTCD for the existing combination of dual approach lanes and a single approach lane. The plotted points are shown in **Figure 16**. Therefore, a traffic signal is anticipated to be the appropriate control at this intersection with continued development of the surrounding area.

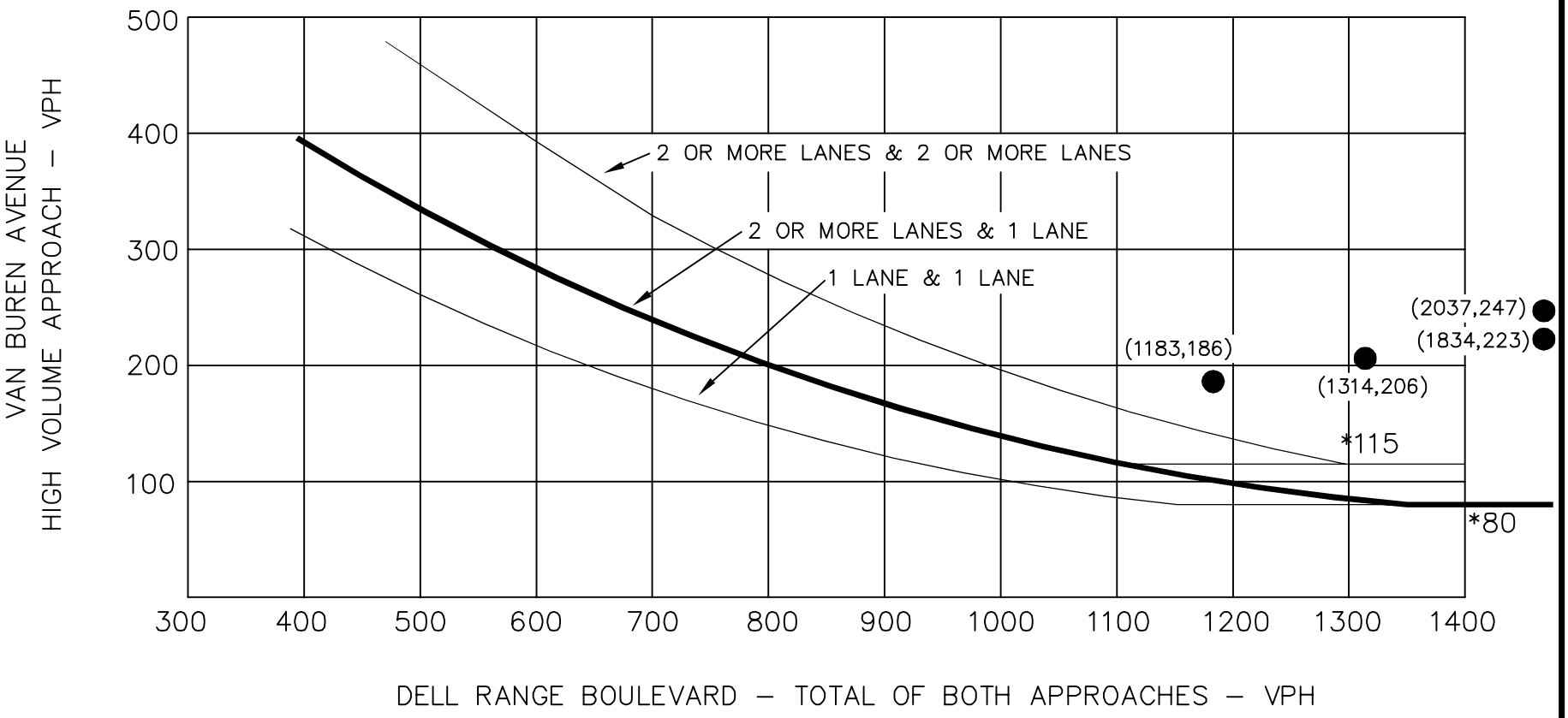
College Drive and Storey Boulevard

The Four-Hour Vehicular Volume signal warrant condition **is satisfied** for the projected 2040 total traffic conditions at the intersection of College Drive and Storey Boulevard. All four of the hourly data points for 2040 which represent the vehicles per hour on the major street (total of both directions) and the corresponding vehicles per hour on the minor street approach are above the curve in Figure 4C-1 of the MUTCD for the existing combination of a single approach lane and a single approach lane. The plotted points are shown in **Figure 17**. Therefore, a traffic signal is anticipated to be the appropriate control at this intersection with continued development of the surrounding area.

College Drive and Thomas Road

The Four-Hour Vehicular Volume signal warrant condition **is satisfied** for the projected 2040 total traffic conditions at the intersection of College Drive and Thomas Road. All four of the hourly data points for 2040 which represent the vehicles per hour on the major street (total of both directions) and the corresponding vehicles per hour on the minor street approach are above the curve in Figure 4C-1 of the MUTCD for the existing combination of a single approach lane and a single approach lane. The plotted points are shown in **Figure 18**. Therefore, a traffic signal is anticipated to be the appropriate control at this intersection with development of Whitney Ranch.

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

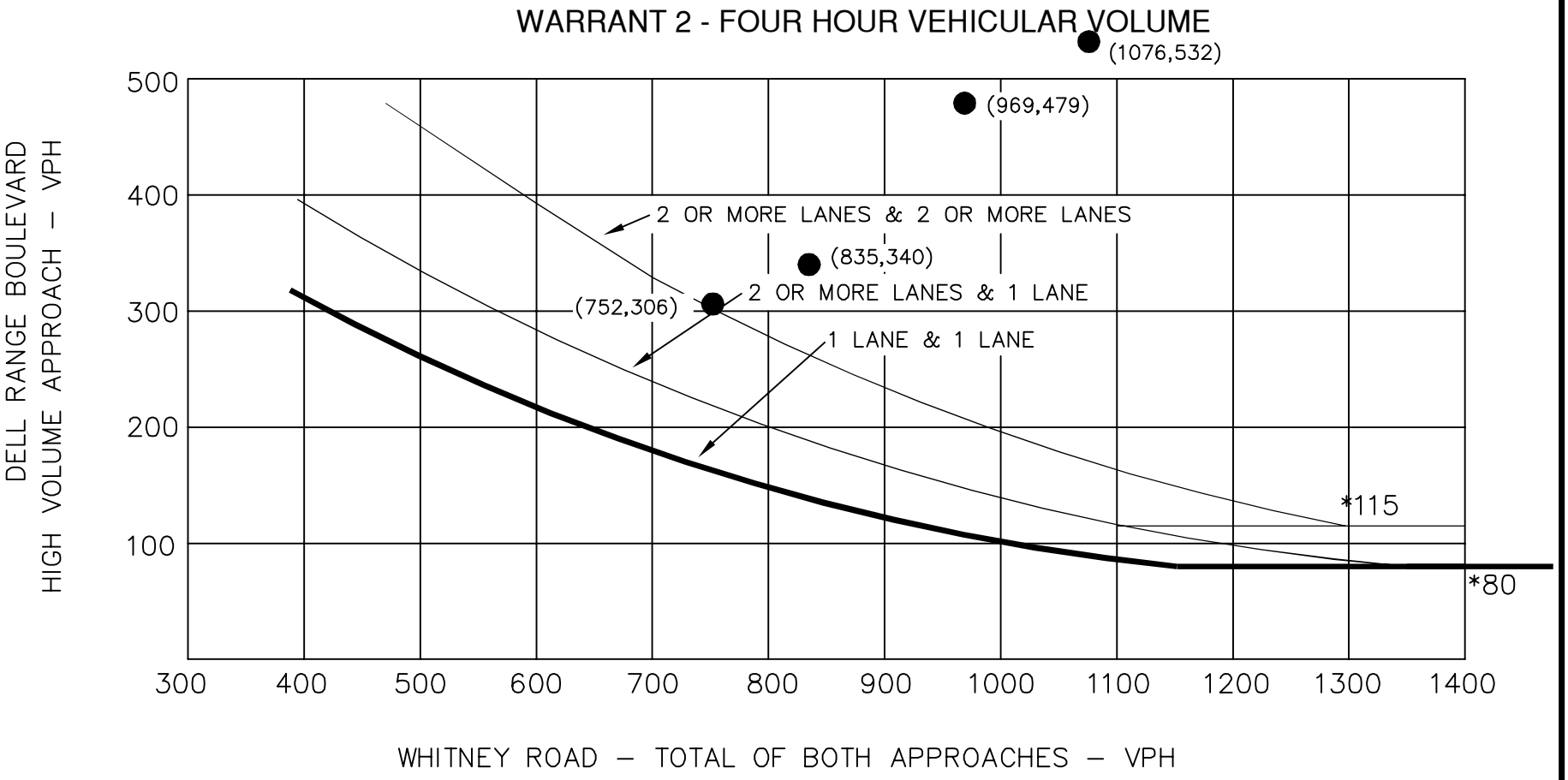
DELL RANGE BOULEVARD & VAN BUREN AVENUE
FOUR HOUR VOLUME WARRANT

● 2040 TRAFFIC DATA POINT

FIGURE 12

Source: Manual of Uniform Traffic Control Devices 2009

Kimley»Horn



* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

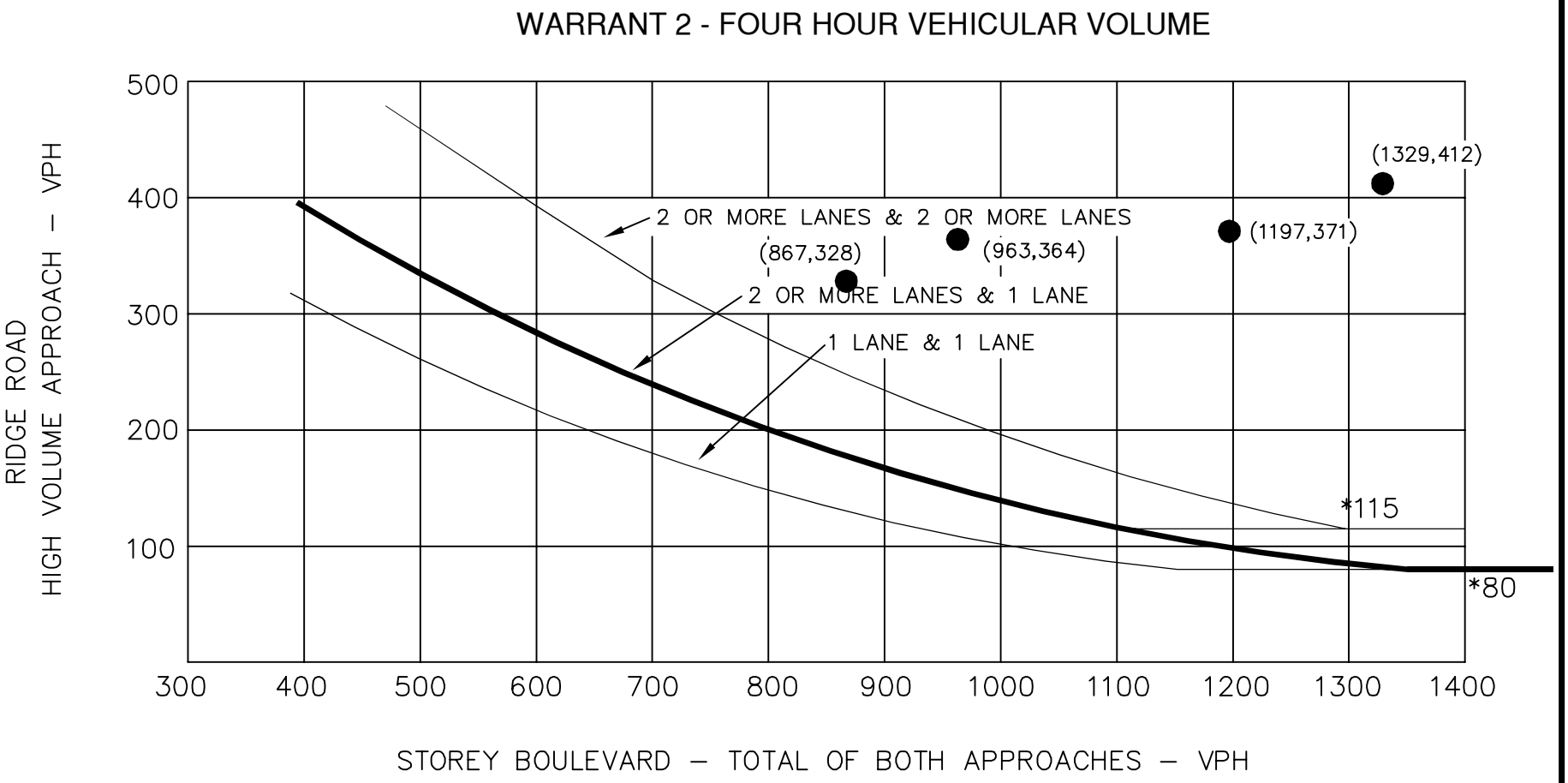
WHITNEY ROAD & DELL RANGE BOULEVARD
FOUR HOUR VOLUME WARRANT

● 2040 TRAFFIC DATA POINT

FIGURE 13

Source: Manual of Uniform Traffic Control Devices 2009

Kimley»Horn



* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

STOREY BOULEVARD & RIDGE ROAD
FOUR HOUR VOLUME WARRANT

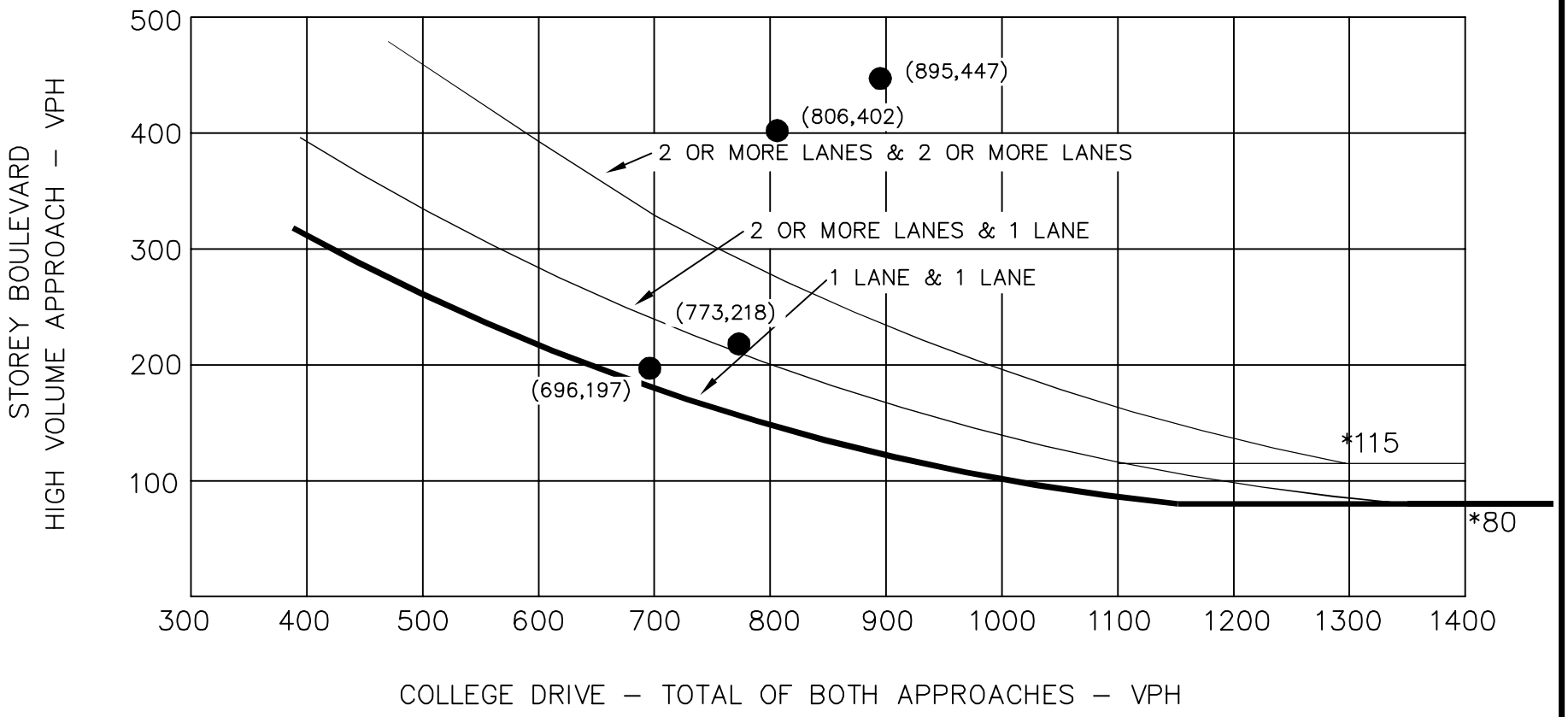
● 2040 TRAFFIC DATA POINT

Source: Manual of Uniform Traffic Control Devices 2009

FIGURE 14

Kimley»Horn

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

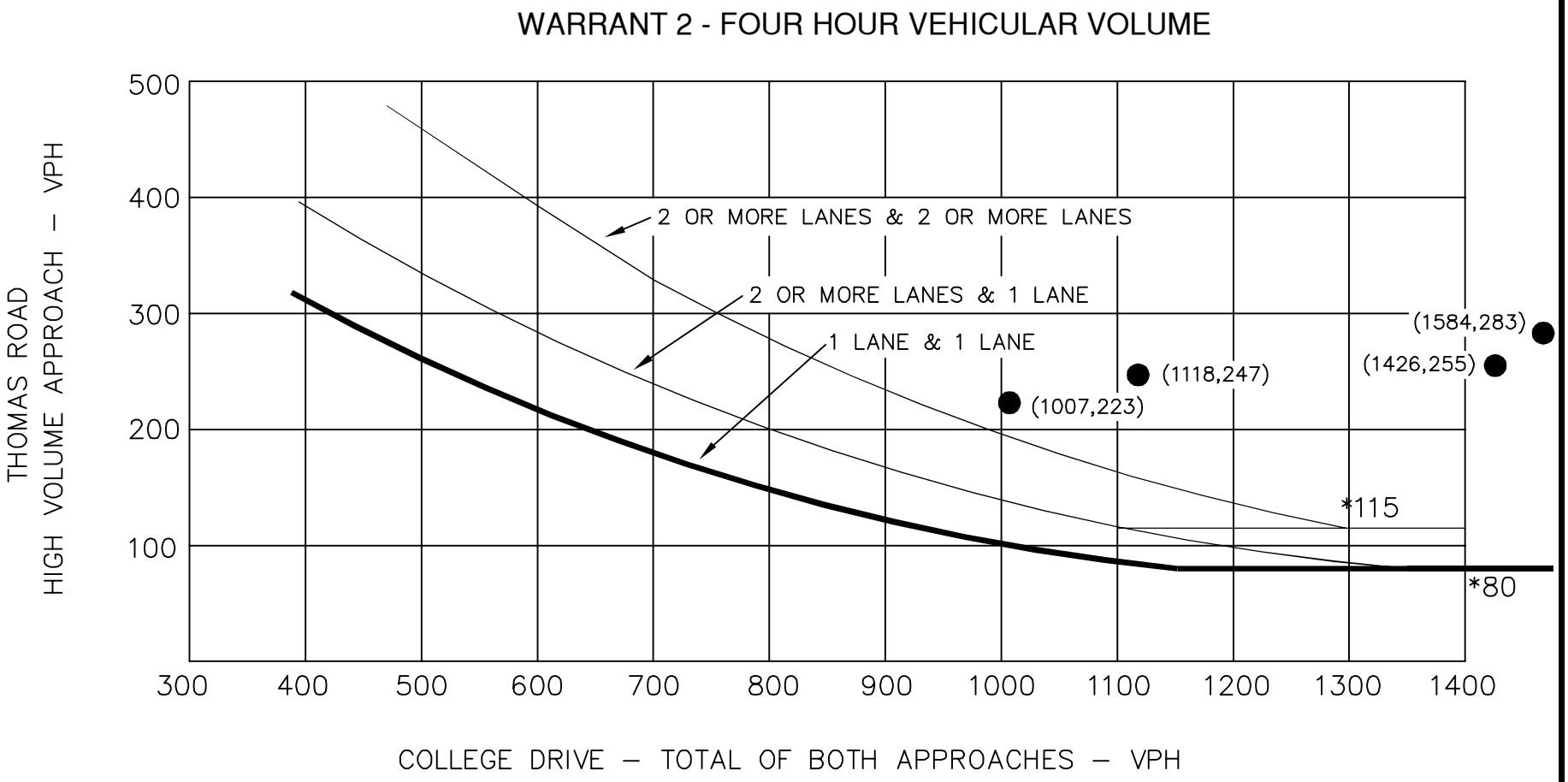
COLLEGE DRIVE & STOREY BOULEVARD
FOUR HOUR VOLUME WARRANT

● 2040 TRAFFIC DATA POINT

FIGURE 15

Source: Manual of Uniform Traffic Control Devices 2009

Kimley»Horn



* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

COLLEGE DRIVE & THOMAS ROAD
FOUR HOUR VOLUME WARRANT

● 2040 TRAFFIC DATA POINT

FIGURE 16

Source: Manual of Uniform Traffic Control Devices 2009

Kimley»Horn

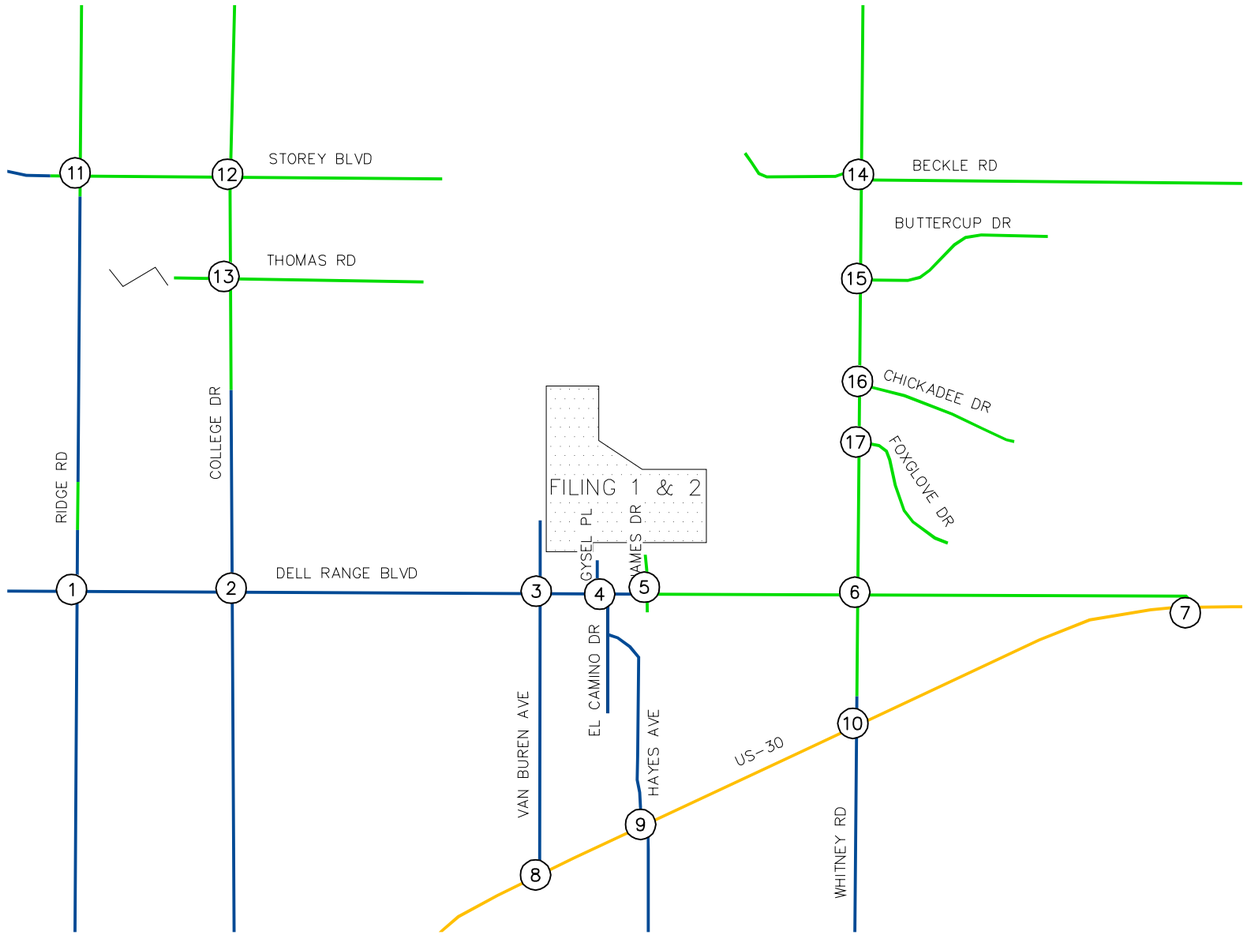
5.5 Pedestrian and Transit Connections

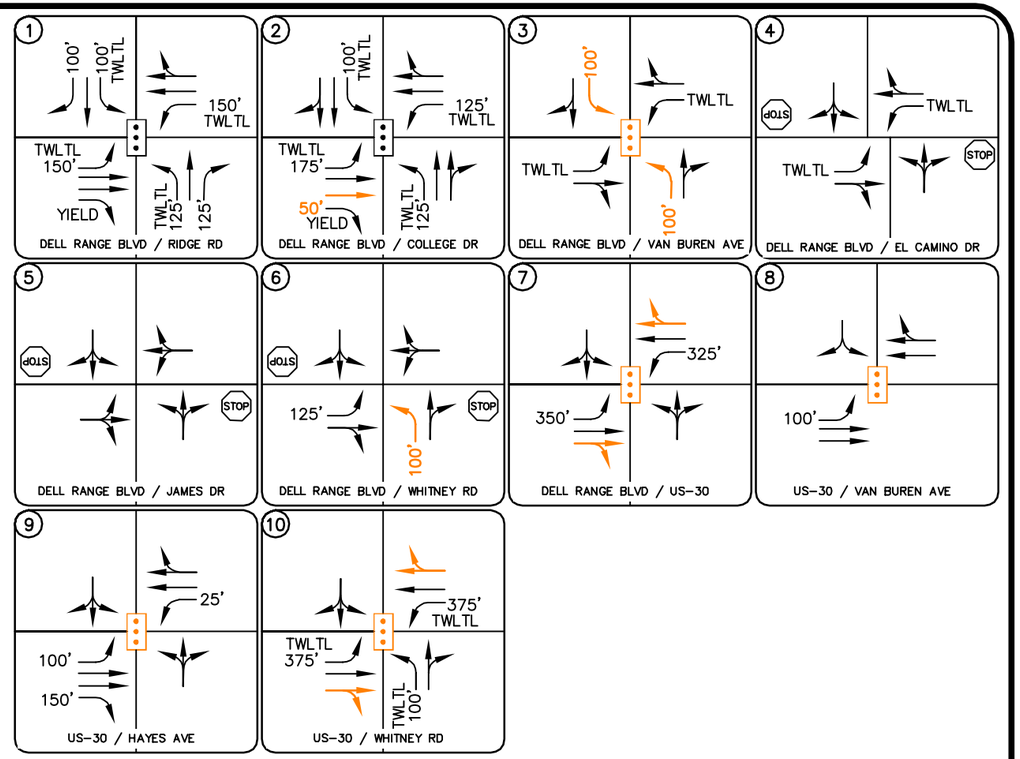
Pedestrian connections are recommended from Whitney Ranch to surrounding sidewalks. As part of the first phase of Filings 1 and 2, sidewalks will be constructed along both sides of the public streets within the project site. These sidewalks will provide a connection to Van Buren Avenue and the existing sidewalk provided along the east side of the roadway. Sidewalks exist along both sides of Van Buren Avenue to Dell Range Boulevard that connect to the pedestrian pathways along this roadway. Likewise, a crosswalk exists across the west leg of the Dell Range Boulevard and Van Buren Avenue intersection to provide pedestrian access to the school to the south of this intersection. This pedestrian crosswalk will be enhanced by the recommended signalization of this intersection. Presently, no transit service is available in the area. As the population of the area grows, necessary connections to any transit facility will be considered.

5.6 Improvement Summary

Based on the results of the operational and queuing analysis, the recommended lane configurations and control of the study key intersections and project access driveway is shown in **Figure 19** for the 2022 horizon and **Figure 20** for the 2040 horizon.

Kimley»Horn
NORTH
NTS 096567001





LEGEND

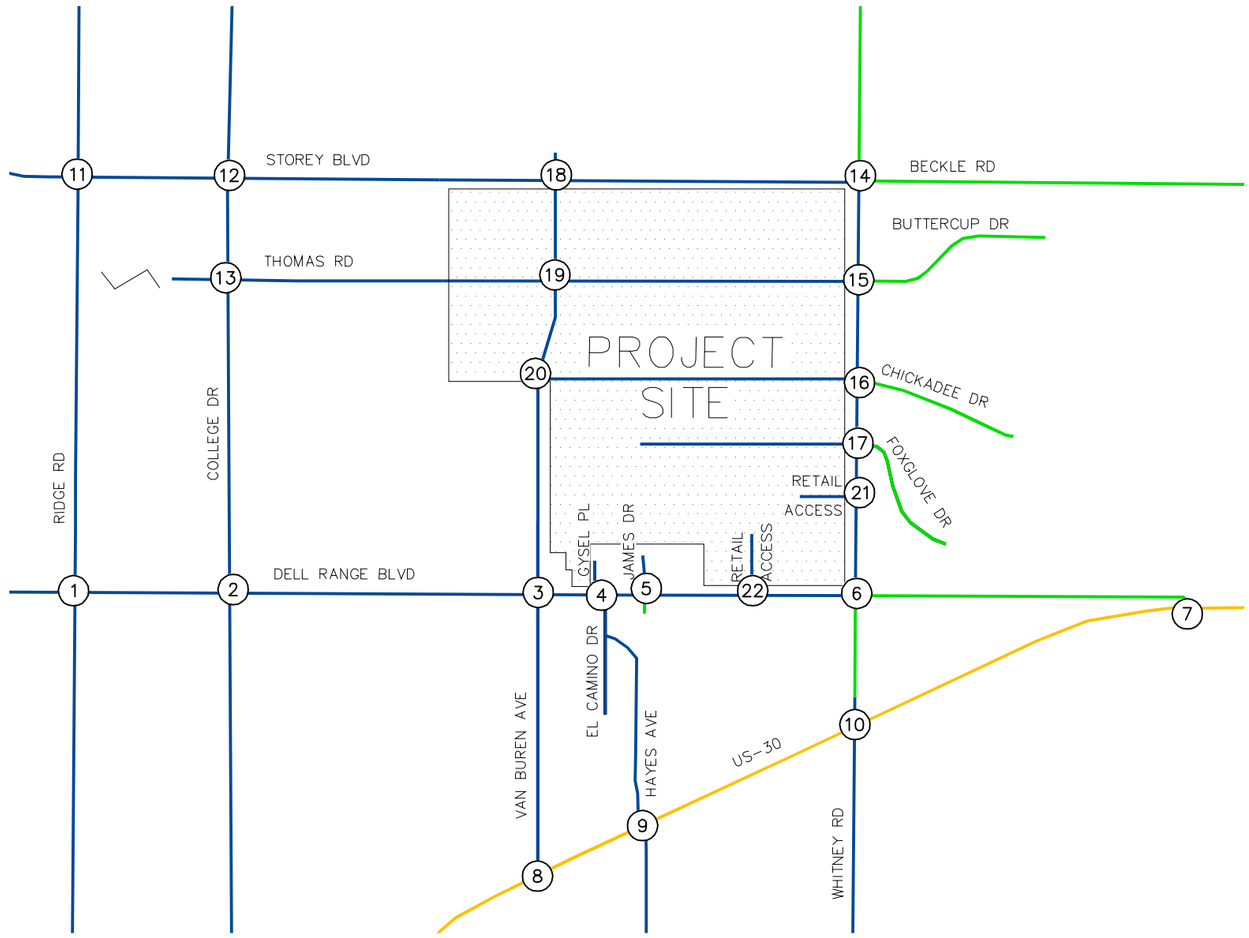
- STATE ROAD
- COUNTY ROAD
- CITY ROAD
- Signalized Intersection
- X — Study Area Key Intersection
- STOP — Stop Controlled Approach
- TWLTL — Two-Way Left-Turn Lane
- 100' — Turn Lane Length (feet)
- Improvements

WHITNEY RANCH
2022 RECOMMENDED LANE CONFIGURATIONS AND CONTROL

FIGURE 17

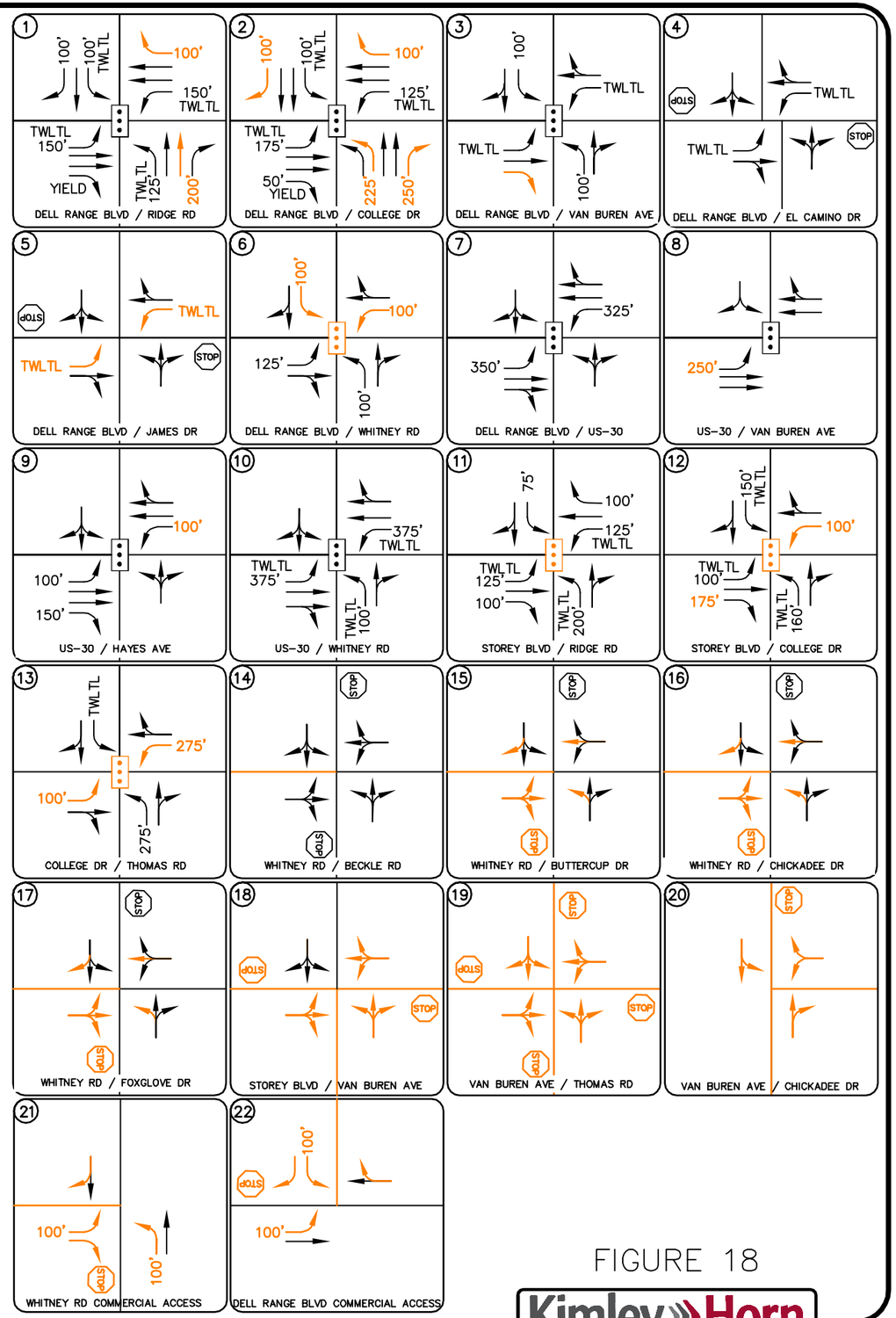
Kimley»Horn

Kimley»Horn
NORTH
NTS 096567001



LEGEND

STATE ROAD	Study Area Key Intersection
COUNTY ROAD	Stop Controlled Approach
CITY ROAD	TWLTL Two-Way Left-Turn Lane
Signalized Intersection	100' Turn Lane Length (feet)
	Improvements



WHITNEY RANCH
2040 RECOMMENDED LANE CONFIGURATIONS AND CONTROL

FIGURE 18

Kimley»Horn

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the proposed Whitney Ranch development will be successfully incorporated into the existing and future roadway network. The existing traffic volume analysis, proposed project development, and expected future traffic volumes resulted in the following conclusions and recommendations:

2022 Phase 1 Traffic Condition Improvements

- The intersection of Dell Range Boulevard and College Drive (#2) should be improved to provide two eastbound through lanes. The existing pork chop raised island could be reconstructed to allow for the second through lane through the signalized intersection to then taper to a single eastbound through lane further east using the existing transition.

- The Dell Range Boulevard and Van Buren Avenue intersection (#3) should be signalized, and the northbound and southbound approaches should be designated to provide separate 100-foot left turn lanes.

- The northbound approach to the intersection of Dell Range Boulevard and Whitney Road (#6) should be improved to provide a 100-foot separate left turn lane.

- Gysel Place is recommended to be a paved roadway from the intersection with Dell Range Boulevard to provide paved access to the project site upon completion of the first phase of development.

- It is understood that WYDOT is improving US-30 to include two through lanes in each direction throughout the study area. Likewise, the US-30 intersections with Dell Range Boulevard, Van Buren Avenue, Hayes Avenue, and Whitney Road are anticipated to be signalized.

2040 Long-Term Horizon Traffic Condition Improvements

- It is recommended that Dell Range Boulevard be improved to be a five-lane roadway providing two through lanes in each direction between and through the intersections of College Drive to Van Buren Avenue. The five-lane roadway is recommended to

transition to one through lane in each direction east of the Van Buren Avenue intersection. A continuous two-way left turn lane should remain through the five-lane section.

- It is recommended that Dell Range Boulevard be improved to be a three-lane roadway with a continuous two way left turn lane between James Drive and Whitney Road.

- It is recommended that the northbound right turn lane at the Dell Range Boulevard and Ridge Road intersection (#1) be restriped to show an extension from the existing 125 feet to 200 feet. Additionally, this intersection may require a second northbound through lane and a 100-foot westbound right turn lane by the long-term horizon.

- The intersection of Dell Range Boulevard and College Drive (#2) may need 225-foot northbound dual left turn lanes, a 250-foot northbound right turn lane, a 100-foot westbound right turn lane, and a 100-foot southbound right turn lane by 2040.

- The intersection of Dell Range Boulevard and James Drive (#5) should be improved to provide a center two-way left-turn lane along Dell Range Boulevard.

- The intersection of Dell Range Boulevard and Whitney Road (#6) should be signalized, and the westbound and southbound approaches should provide separate 100-foot left turn lanes so that all approaches include left turn lanes.

- The eastbound left turn lane at the US-30 and Van Buren Avenue intersection (#8) should be extended to a length of 250 feet to accommodate projected queues.

- A westbound left turn lane at the US-30 and Hayes Avenue intersection (#9) is recommended to be 100-foot long to accommodate projected queues.

- The Storey Boulevard and Ridge Road intersection (#11) should be signalized.

- It is recommended that the eastbound right turn lane at the Storey Boulevard and College Drive intersection (#12) be extended from 100 feet to 175 feet. This intersection

should also be considered for signalization and provide a separate 100-foot westbound left turn lane.

- The intersection of College Drive and Thomas Road (#13) may warrant signalization upon buildout of the proposed Whitney Ranch development. The eastbound and westbound approaches of this intersection should provide separate left turn lanes of 100 feet and 275 feet, respectively.

- The future intersection of Storey Boulevard and Van Buren Avenue (#18) should operate with stop control along Van Buren Avenue or be constructed as a single lane roundabout to accommodate future traffic volumes.

- The future intersection of Thomas Road and Van Buren Avenue (#19) should operate with all-way stop control or be constructed as a single lane roundabout to accommodate future traffic volumes.

- At the full movement access intersections along Dell Range Boulevard (#22) and Whitney Road (#21) for the commercial parcel on the northwest corner of this intersection, it is recommended that the driveway approaches to the public street have separate left turn and right turn lanes and operate with stop control. Likewise, 100-foot left turn lanes for entering traffic movements are also recommended along the public street.

General Recommendations

All on-site and off-site signing and striping improvements should be incorporated into the Civil Drawings, and conform to City of Cheyenne and/or Wyoming Department of Transportation standards as well as the Manual on Uniform Traffic Control Devices – 2009 Edition (MUTCD).

APPENDICES

APPENDIX A

Intersection Count Sheets

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Ridge Rd

File Name : Dell Range and Ridge AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

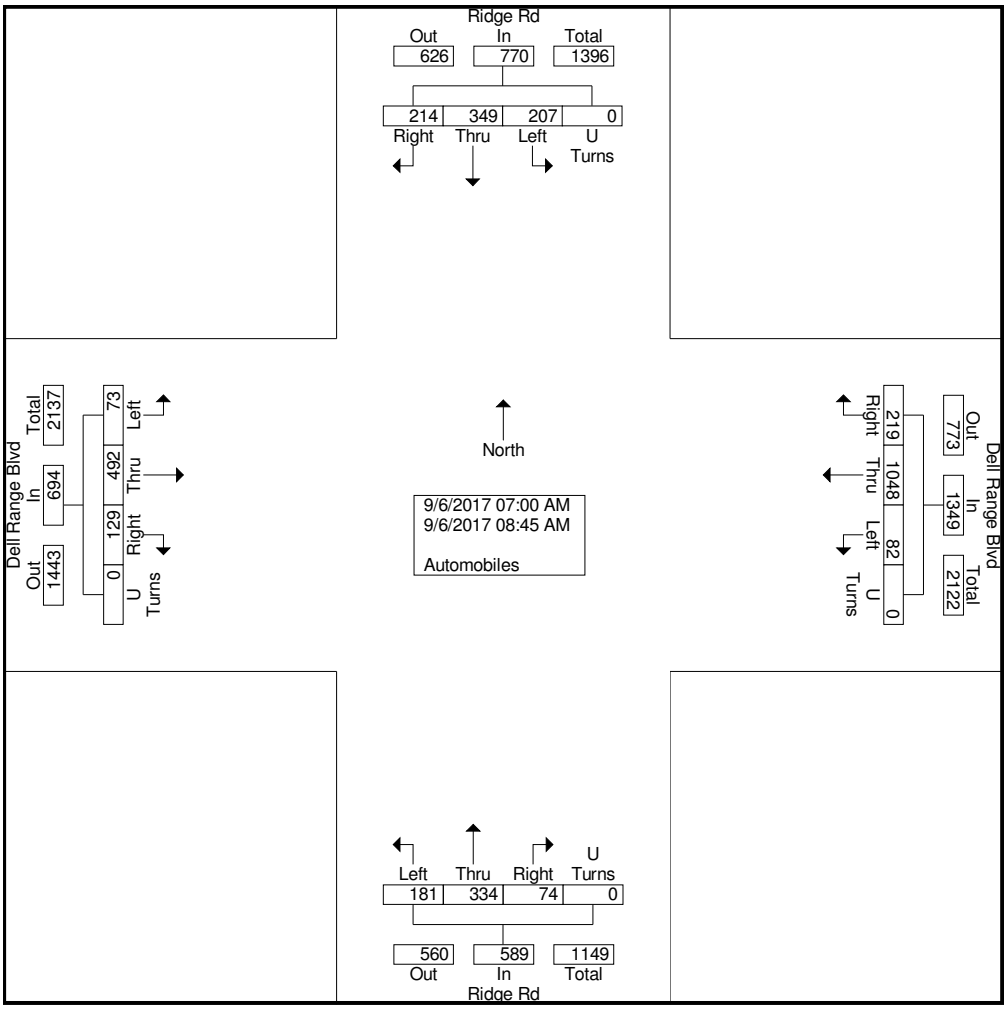
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Ridge Rd Northbound					Ridge Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	7	41	14	0	62	11	135	30	0	176	15	29	3	0	47	25	33	25	0	83	368
07:15 AM	8	58	13	0	79	12	150	15	0	177	28	33	12	0	73	19	39	40	0	98	427
07:30 AM	5	70	11	0	86	13	134	20	0	167	19	48	8	0	75	30	41	33	0	104	432
07:45 AM	10	67	13	0	90	12	159	51	0	222	33	66	14	0	113	36	52	35	0	123	548
Total	30	236	51	0	317	48	578	116	0	742	95	176	37	0	308	110	165	133	0	408	1775
08:00 AM	6	61	26	0	93	6	101	44	0	151	16	49	7	0	72	29	55	26	0	110	426
08:15 AM	12	63	17	0	92	10	134	29	0	173	16	47	14	0	77	30	51	19	0	100	442
08:30 AM	13	73	14	0	100	8	106	10	0	124	31	30	7	0	68	19	46	20	0	85	377
08:45 AM	12	59	21	0	92	10	129	20	0	159	23	32	9	0	64	19	32	16	0	67	382
Total	43	256	78	0	377	34	470	103	0	607	86	158	37	0	281	97	184	81	0	362	1627
Grand Total	73	492	129	0	694	82	1048	219	0	1349	181	334	74	0	589	207	349	214	0	770	3402
Apprch %	10.5	70.9	18.6	0		6.1	77.7	16.2	0		30.7	56.7	12.6	0		26.9	45.3	27.8	0		
Total %	2.1	14.5	3.8	0	20.4	2.4	30.8	6.4	0	39.7	5.3	9.8	2.2	0	17.3	6.1	10.3	6.3	0	22.6	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Ridge Rd

File Name : Dell Range and Ridge AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



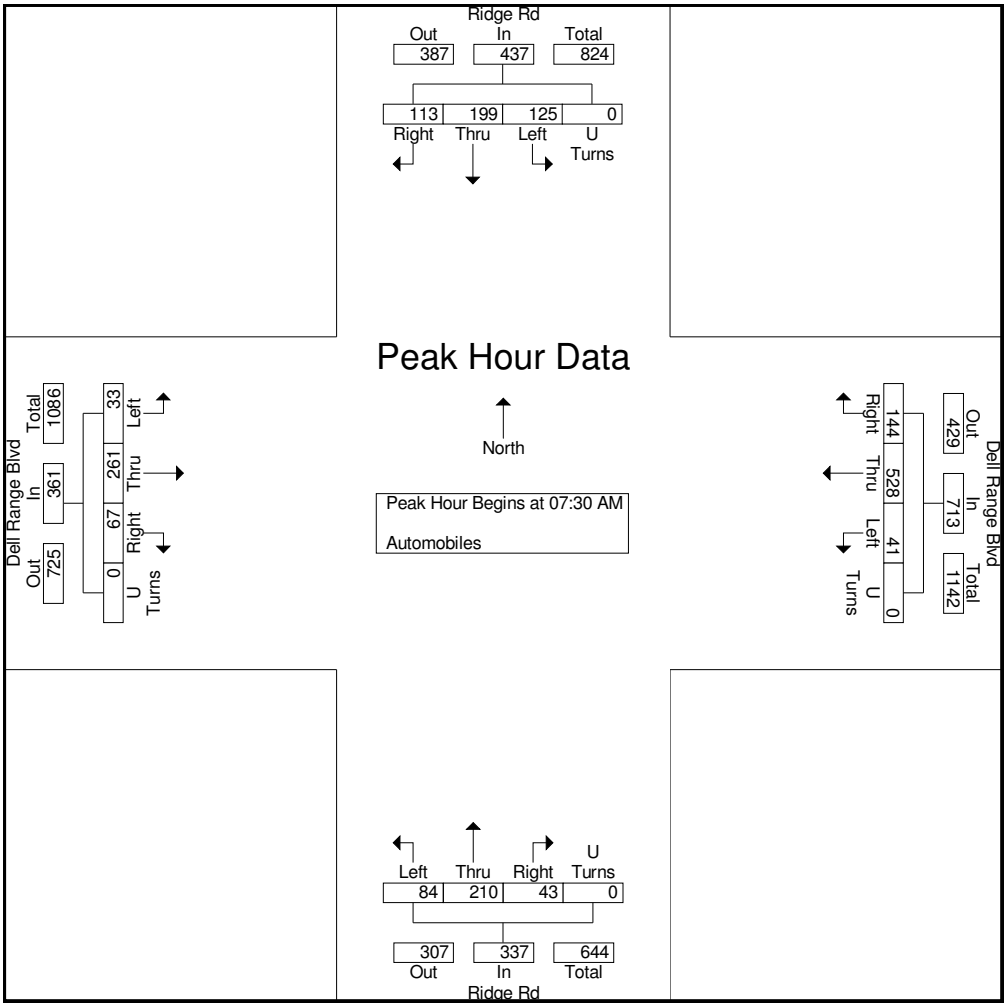
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Ridge Rd

File Name : Dell Range and Ridge AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Ridge Rd Northbound					Ridge Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	5	70	11	0	86	13	134	20	0	167	19	48	8	0	75	30	41	33	0	104	432
07:45 AM	10	67	13	0	90	12	159	51	0	222	33	66	14	0	113	36	52	35	0	123	548
08:00 AM	6	61	26	0	93	6	101	44	0	151	16	49	7	0	72	29	55	26	0	110	426
08:15 AM	12	63	17	0	92	10	134	29	0	173	16	47	14	0	77	30	51	19	0	100	442
Total Volume	33	261	67	0	361	41	528	144	0	713	84	210	43	0	337	125	199	113	0	437	1848
% App. Total	9.1	72.3	18.6	0		5.8	74.1	20.2	0		24.9	62.3	12.8	0		28.6	45.5	25.9	0		
PHF	.688	.932	.644	.000	.970	.788	.830	.706	.000	.803	.636	.795	.768	.000	.746	.868	.905	.807	.000	.888	.843



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Ridge Rd

File Name : Dell Range and Ridge PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

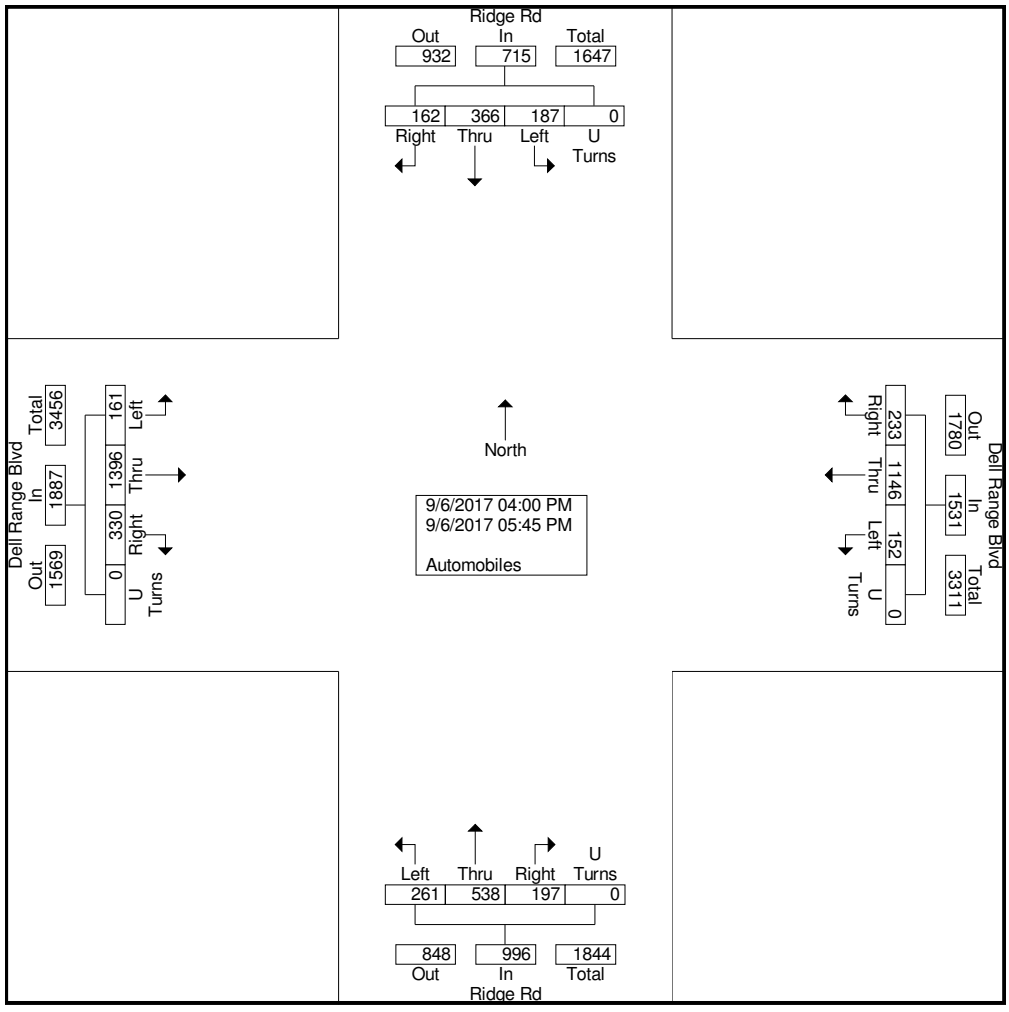
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Ridge Rd Northbound					Ridge Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	14	180	37	0	231	20	136	24	0	180	32	68	23	0	123	32	37	20	0	89	623
04:15 PM	22	162	44	0	228	16	140	26	0	182	39	68	27	0	134	20	30	18	0	68	612
04:30 PM	18	174	40	0	232	21	145	26	0	192	25	56	29	0	110	25	48	16	0	89	623
04:45 PM	21	182	44	0	247	10	157	43	0	210	29	65	22	0	116	17	49	18	0	84	657
Total	75	698	165	0	938	67	578	119	0	764	125	257	101	0	483	94	164	72	0	330	2515
05:00 PM	19	180	48	0	247	25	133	32	0	190	27	62	22	0	111	25	63	27	0	115	663
05:15 PM	24	182	36	0	242	17	135	33	0	185	41	98	31	0	170	20	61	15	0	96	693
05:30 PM	20	167	41	0	228	23	157	29	0	209	40	67	25	0	132	22	39	26	0	87	656
05:45 PM	23	169	40	0	232	20	143	20	0	183	28	54	18	0	100	26	39	22	0	87	602
Total	86	698	165	0	949	85	568	114	0	767	136	281	96	0	513	93	202	90	0	385	2614
Grand Total	161	1396	330	0	1887	152	1146	233	0	1531	261	538	197	0	996	187	366	162	0	715	5129
Apprch %	8.5	74	17.5	0		9.9	74.9	15.2	0		26.2	54	19.8	0		26.2	51.2	22.7	0		
Total %	3.1	27.2	6.4	0	36.8	3	22.3	4.5	0	29.8	5.1	10.5	3.8	0	19.4	3.6	7.1	3.2	0	13.9	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Ridge Rd

File Name : Dell Range and Ridge PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



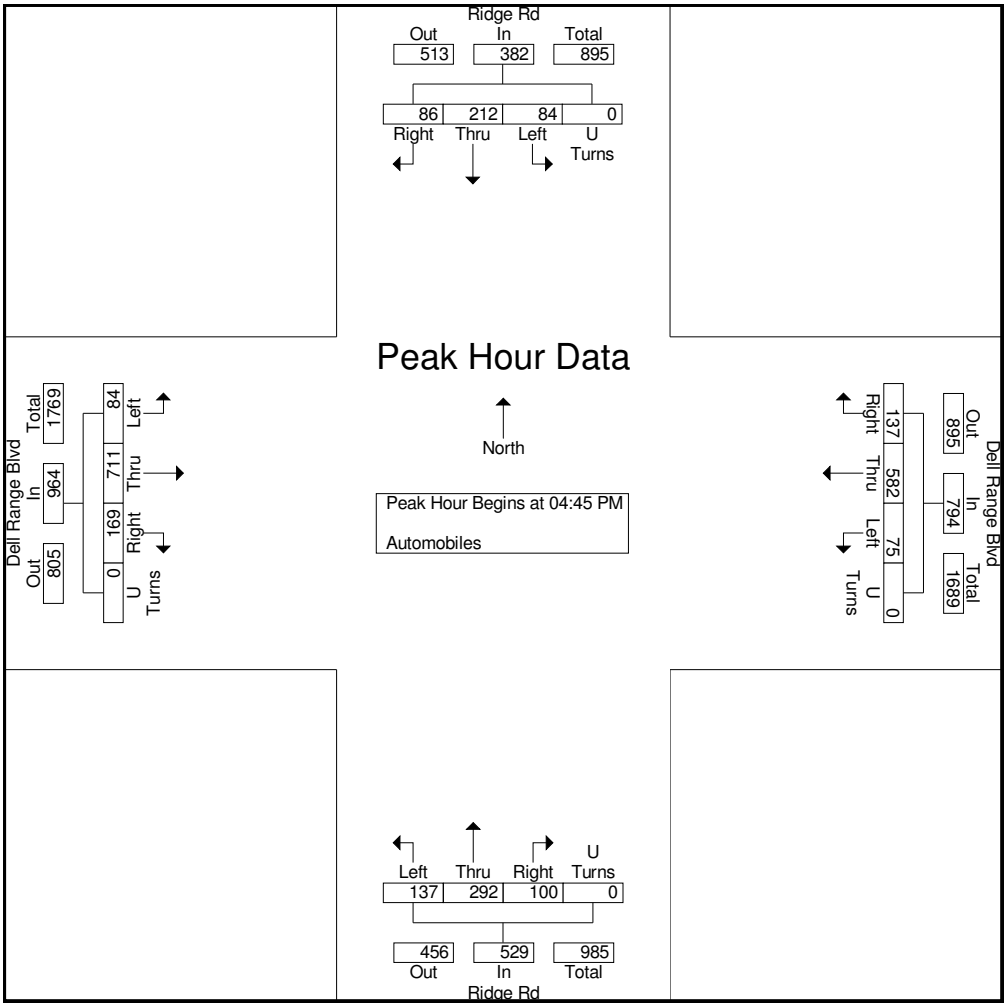
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Ridge Rd

File Name : Dell Range and Ridge PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Ridge Rd Northbound					Ridge Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	21	182	44	0	247	10	157	43	0	210	29	65	22	0	116	17	49	18	0	84	657
05:00 PM	19	180	48	0	247	25	133	32	0	190	27	62	22	0	111	25	63	27	0	115	663
05:15 PM	24	182	36	0	242	17	135	33	0	185	41	98	31	0	170	20	61	15	0	96	693
05:30 PM	20	167	41	0	228	23	157	29	0	209	40	67	25	0	132	22	39	26	0	87	656
Total Volume	84	711	169	0	964	75	582	137	0	794	137	292	100	0	529	84	212	86	0	382	2669
% App. Total	8.7	73.8	17.5	0		9.4	73.3	17.3	0		25.9	55.2	18.9	0		22	55.5	22.5	0		
PHF	.875	.977	.880	.000	.976	.750	.927	.797	.000	.945	.835	.745	.806	.000	.778	.840	.841	.796	.000	.830	.963



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and College Dr

File Name : Dell Range and College AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

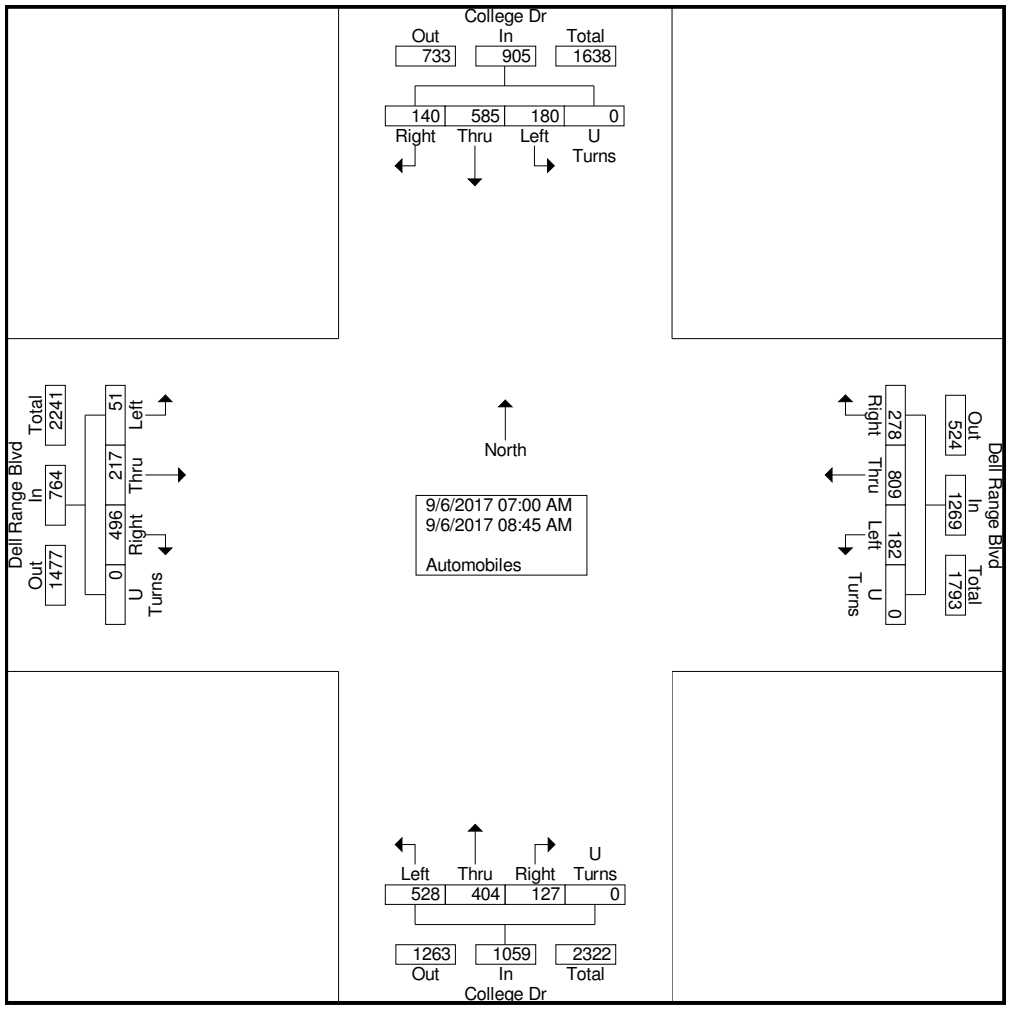
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	3	26	54	0	83	25	118	41	0	184	45	44	12	0	101	17	64	26	0	107	475
07:15 AM	5	26	53	0	84	33	122	40	0	195	48	47	36	0	131	21	70	22	0	113	523
07:30 AM	5	28	70	0	103	38	112	48	0	198	59	46	17	0	122	21	88	26	0	135	558
07:45 AM	6	29	72	0	107	31	112	38	0	181	90	76	10	0	176	28	90	16	0	134	598
Total	19	109	249	0	377	127	464	167	0	758	242	213	75	0	530	87	312	90	0	489	2154
08:00 AM	7	30	69	0	106	13	97	40	0	150	68	45	14	0	127	31	74	12	0	117	500
08:15 AM	8	28	63	0	99	13	85	31	0	129	69	55	15	0	139	29	77	10	0	116	483
08:30 AM	10	24	60	0	94	14	78	14	0	106	67	56	11	0	134	16	71	11	0	98	432
08:45 AM	7	26	55	0	88	15	85	26	0	126	82	35	12	0	129	17	51	17	0	85	428
Total	32	108	247	0	387	55	345	111	0	511	286	191	52	0	529	93	273	50	0	416	1843
Grand Total	51	217	496	0	764	182	809	278	0	1269	528	404	127	0	1059	180	585	140	0	905	3997
Apprch %	6.7	28.4	64.9	0		14.3	63.8	21.9	0		49.9	38.1	12	0		19.9	64.6	15.5	0		
Total %	1.3	5.4	12.4	0	19.1	4.6	20.2	7	0	31.7	13.2	10.1	3.2	0	26.5	4.5	14.6	3.5	0	22.6	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and College Dr

File Name : Dell Range and College AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



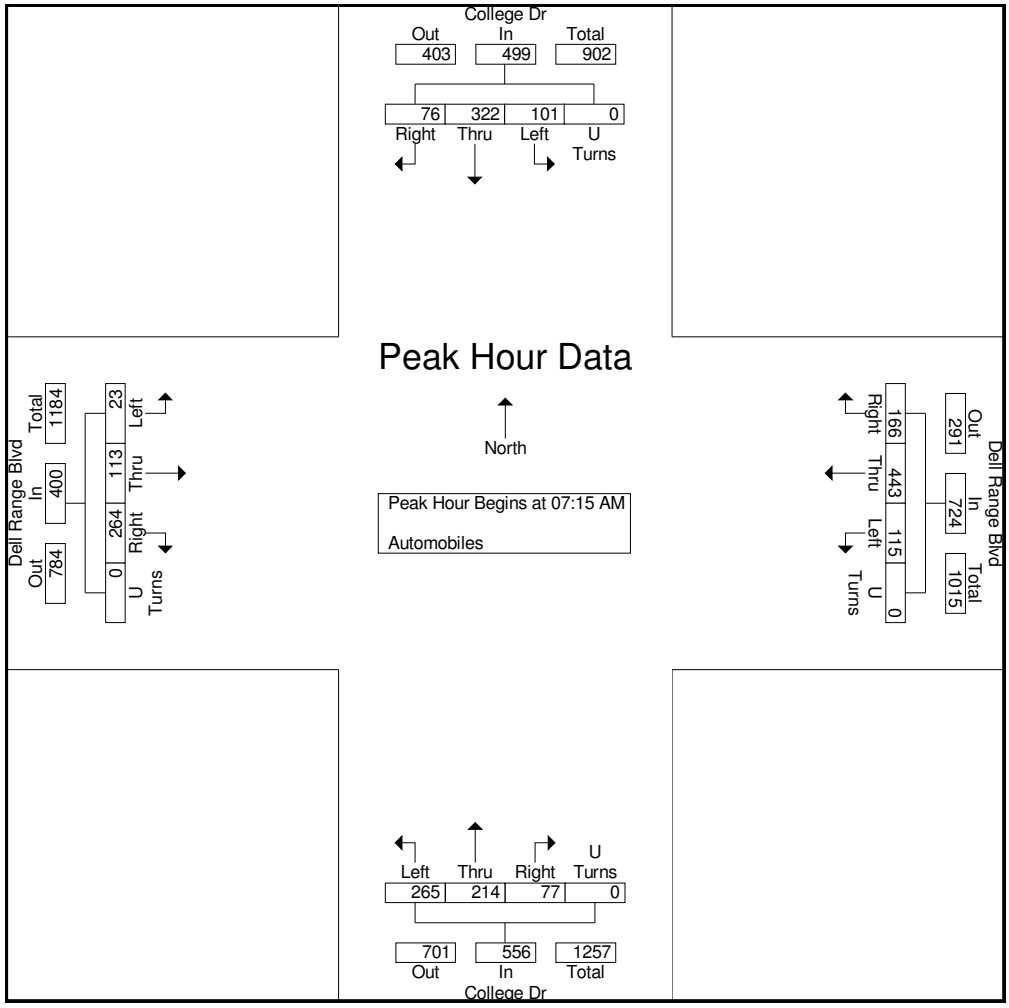
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and College Dr

File Name : Dell Range and College AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	5	26	53	0	84	33	122	40	0	195	48	47	36	0	131	21	70	22	0	113	523
07:30 AM	5	28	70	0	103	38	112	48	0	198	59	46	17	0	122	21	88	26	0	135	558
07:45 AM	6	29	72	0	107	31	112	38	0	181	90	76	10	0	176	28	90	16	0	134	598
08:00 AM	7	30	69	0	106	13	97	40	0	150	68	45	14	0	127	31	74	12	0	117	500
Total Volume	23	113	264	0	400	115	443	166	0	724	265	214	77	0	556	101	322	76	0	499	2179
% App. Total	5.8	28.2	66	0		15.9	61.2	22.9	0		47.7	38.5	13.8	0		20.2	64.5	15.2	0		
PHF	.821	.942	.917	.000	.935	.757	.908	.865	.000	.914	.736	.704	.535	.000	.790	.815	.894	.731	.000	.924	.911



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and College Dr

File Name : Dell Range and College PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

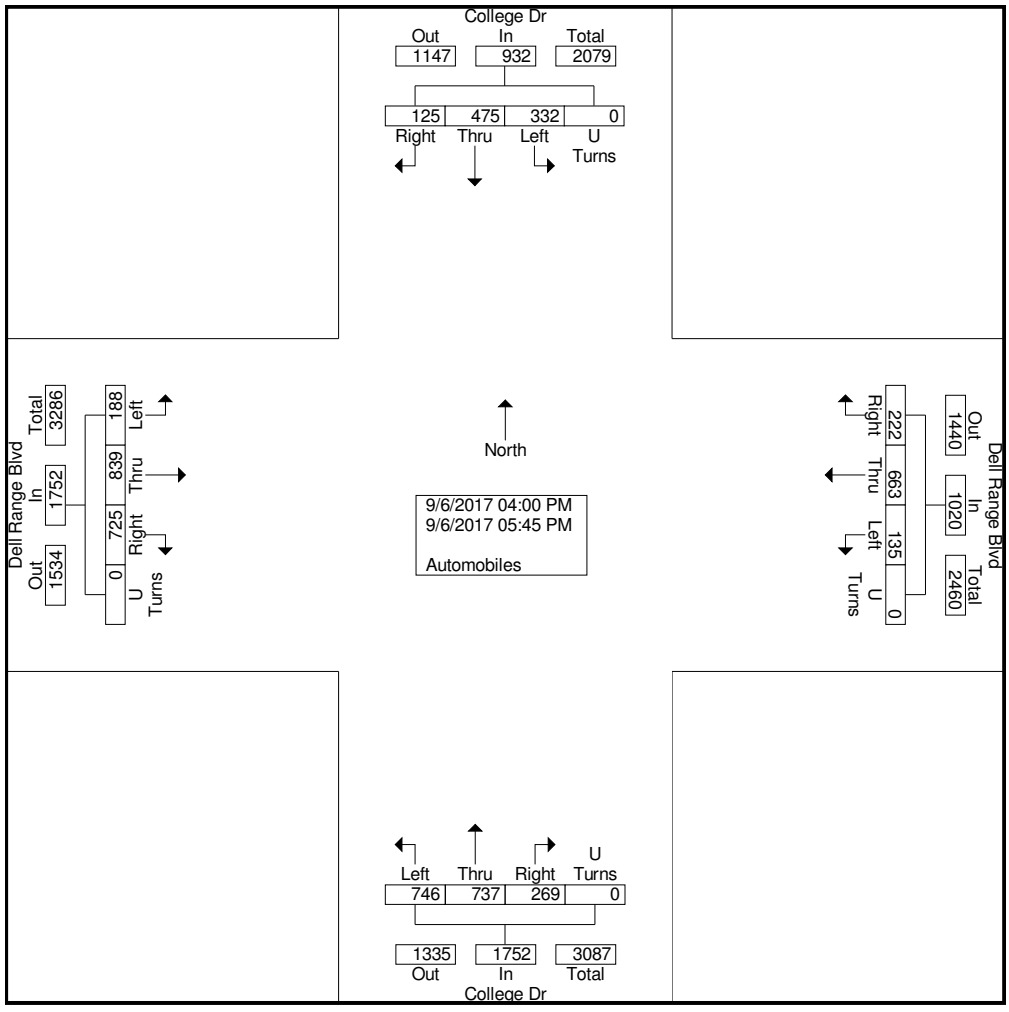
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	23	107	93	0	223	38	93	28	0	159	88	75	42	0	205	31	49	12	0	92	679
04:15 PM	17	90	94	0	201	13	64	25	0	102	102	82	33	0	217	42	62	19	0	123	643
04:30 PM	27	98	95	0	220	10	84	24	0	118	77	81	23	0	181	38	72	14	0	124	643
04:45 PM	32	114	81	0	227	13	81	27	0	121	105	82	30	0	217	44	59	18	0	121	686
Total	99	409	363	0	871	74	322	104	0	500	372	320	128	0	820	155	242	63	0	460	2651
05:00 PM	18	101	100	0	219	12	87	29	0	128	101	97	30	0	228	49	59	13	0	121	696
05:15 PM	16	111	85	0	212	14	91	33	0	138	89	125	49	0	263	54	65	14	0	133	746
05:30 PM	27	112	87	0	226	18	80	31	0	129	106	97	35	0	238	49	57	19	0	125	718
05:45 PM	28	106	90	0	224	17	83	25	0	125	78	98	27	0	203	25	52	16	0	93	645
Total	89	430	362	0	881	61	341	118	0	520	374	417	141	0	932	177	233	62	0	472	2805
Grand Total	188	839	725	0	1752	135	663	222	0	1020	746	737	269	0	1752	332	475	125	0	932	5456
Apprch %	10.7	47.9	41.4	0		13.2	65	21.8	0		42.6	42.1	15.4	0		35.6	51	13.4	0		
Total %	3.4	15.4	13.3	0	32.1	2.5	12.2	4.1	0	18.7	13.7	13.5	4.9	0	32.1	6.1	8.7	2.3	0	17.1	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and College Dr

File Name : Dell Range and College PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



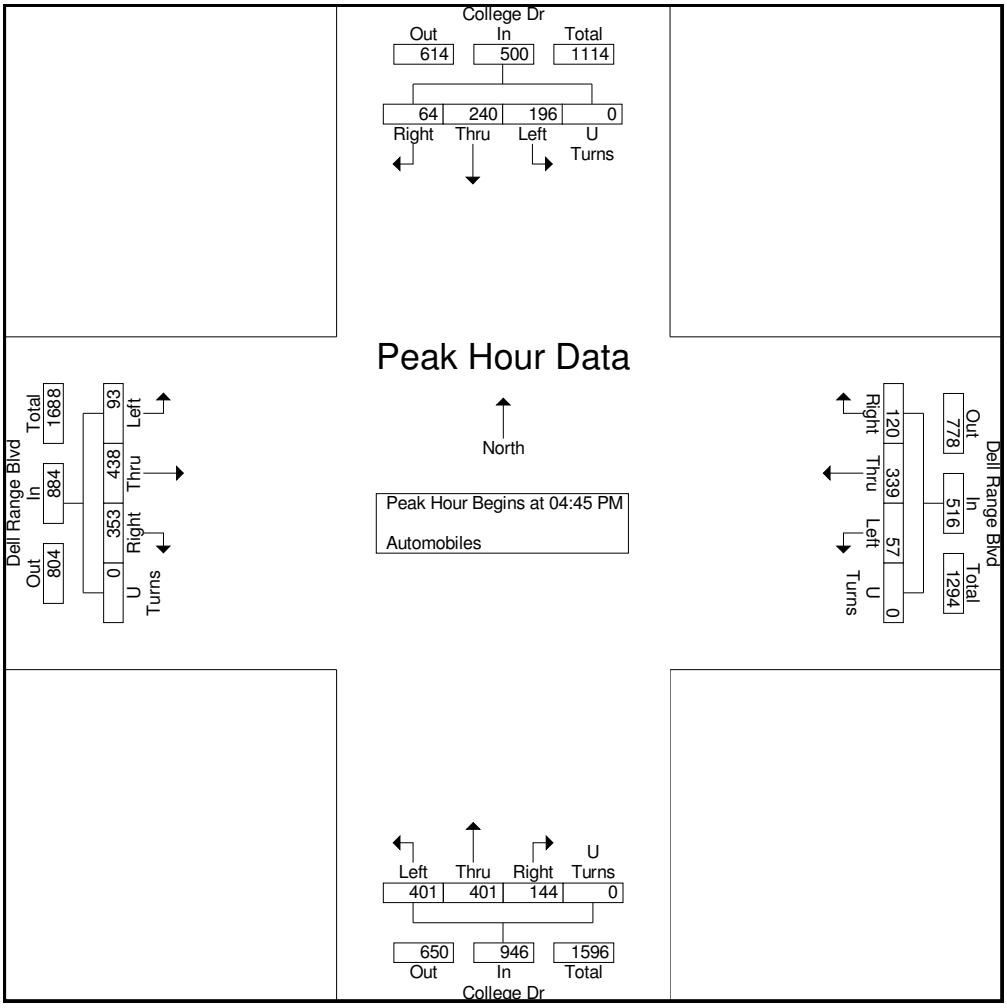
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and College Dr

File Name : Dell Range and College PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	32	114	81	0	227	13	81	27	0	121	105	82	30	0	217	44	59	18	0	121	686
05:00 PM	18	101	100	0	219	12	87	29	0	128	101	97	30	0	228	49	59	13	0	121	696
05:15 PM	16	111	85	0	212	14	91	33	0	138	89	125	49	0	263	54	65	14	0	133	746
05:30 PM	27	112	87	0	226	18	80	31	0	129	106	97	35	0	238	49	57	19	0	125	718
Total Volume	93	438	353	0	884	57	339	120	0	516	401	401	144	0	946	196	240	64	0	500	2846
% App. Total	10.5	49.5	39.9	0		11	65.7	23.3	0		42.4	42.4	15.2	0		39.2	48	12.8	0		
PHF	.727	.961	.883	.000	.974	.792	.931	.909	.000	.935	.946	.802	.735	.000	.899	.907	.923	.842	.000	.940	.954



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Van Buren Ave

File Name : Dell Range and Van Buren AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

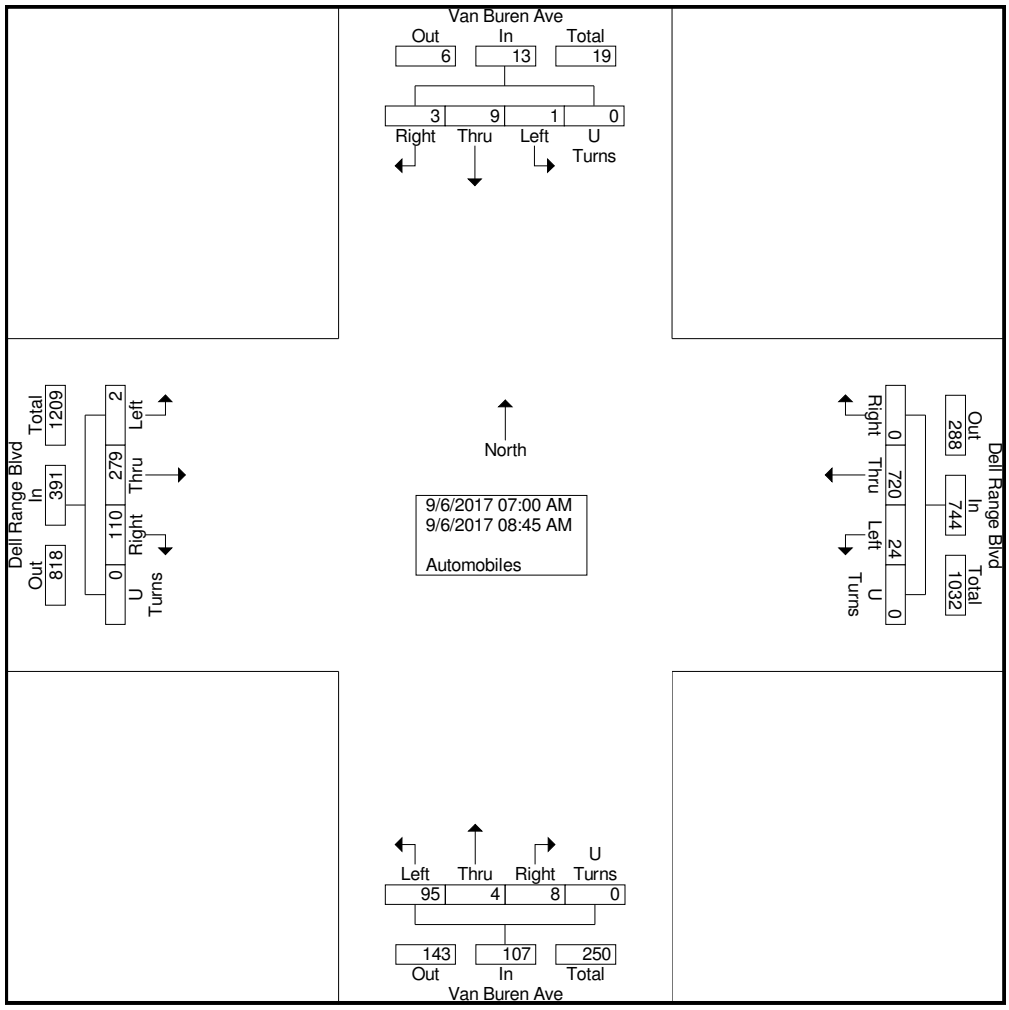
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Van Buren Ave Northbound					Van Buren Ave Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	22	6	0	28	1	106	0	0	107	9	0	0	0	9	1	1	0	0	2	146
07:15 AM	0	32	12	0	44	5	108	0	0	113	13	0	0	0	13	0	0	0	0	0	170
07:30 AM	0	36	8	0	44	2	99	0	0	101	9	0	0	0	9	0	2	1	0	3	157
07:45 AM	1	48	16	0	65	3	105	0	0	108	11	0	1	0	12	0	1	0	0	1	186
Total	1	138	42	0	181	11	418	0	0	429	42	0	1	0	43	1	4	1	0	6	659
08:00 AM	0	40	13	0	53	4	101	0	0	105	7	0	1	0	8	0	0	0	0	0	166
08:15 AM	0	37	39	0	76	8	72	0	0	80	16	4	4	0	24	0	5	0	0	5	185
08:30 AM	1	31	13	0	45	1	52	0	0	53	23	0	2	0	25	0	0	1	0	1	124
08:45 AM	0	33	3	0	36	0	77	0	0	77	7	0	0	0	7	0	0	1	0	1	121
Total	1	141	68	0	210	13	302	0	0	315	53	4	7	0	64	0	5	2	0	7	596
Grand Total	2	279	110	0	391	24	720	0	0	744	95	4	8	0	107	1	9	3	0	13	1255
Apprch %	0.5	71.4	28.1	0		3.2	96.8	0	0		88.8	3.7	7.5	0		7.7	69.2	23.1	0		
Total %	0.2	22.2	8.8	0	31.2	1.9	57.4	0	0	59.3	7.6	0.3	0.6	0	8.5	0.1	0.7	0.2	0	1	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Van Buren Ave

File Name : Dell Range and Van Buren AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



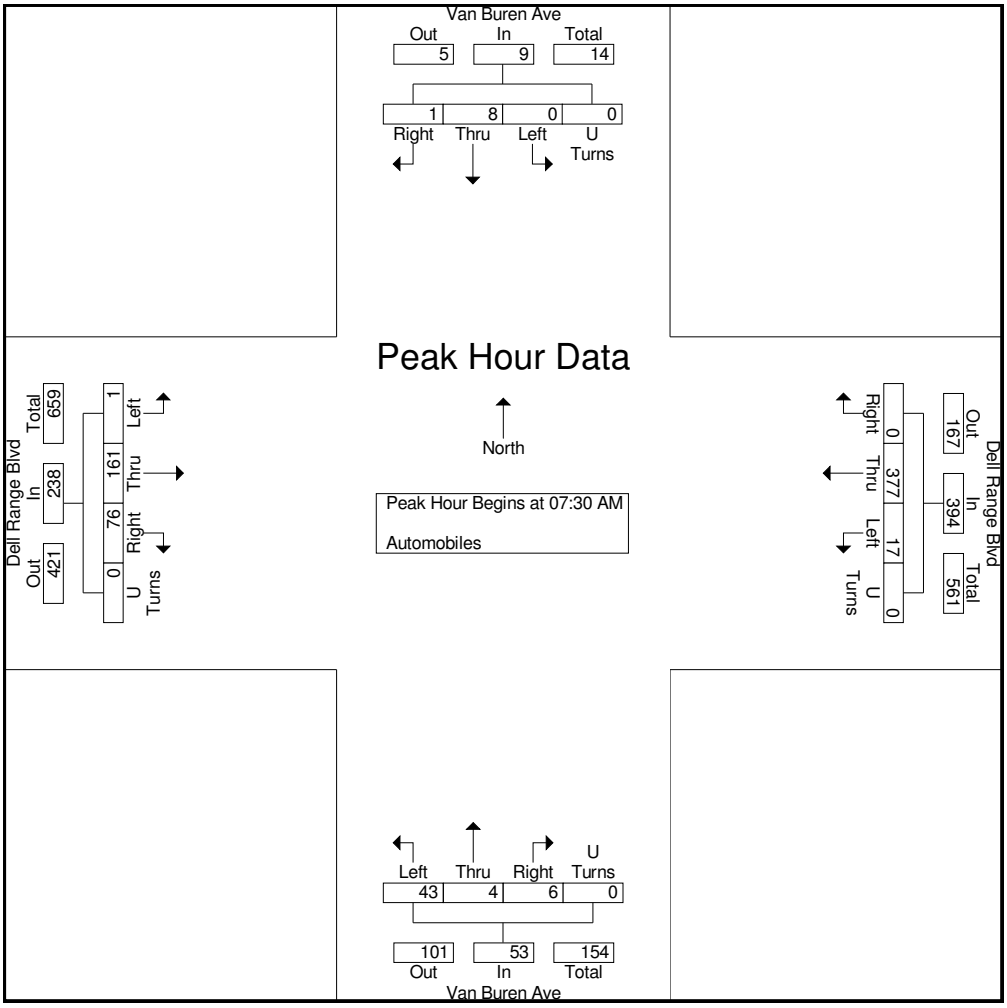
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Van Buren Ave

File Name : Dell Range and Van Buren AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Van Buren Ave Northbound					Van Buren Ave Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	36	8	0	44	2	99	0	0	101	9	0	0	0	9	0	2	1	0	3	157
07:45 AM	1	48	16	0	65	3	105	0	0	108	11	0	1	0	12	0	1	0	0	1	186
08:00 AM	0	40	13	0	53	4	101	0	0	105	7	0	1	0	8	0	0	0	0	0	166
08:15 AM	0	37	39	0	76	8	72	0	0	80	16	4	4	0	24	0	5	0	0	5	185
Total Volume	1	161	76	0	238	17	377	0	0	394	43	4	6	0	53	0	8	1	0	9	694
% App. Total	0.4	67.6	31.9	0		4.3	95.7	0	0		81.1	7.5	11.3	0		0	88.9	11.1	0		
PHF	.250	.839	.487	.000	.783	.531	.898	.000	.000	.912	.672	.250	.375	.000	.552	.000	.400	.250	.000	.450	.933



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Van Buren Ave

File Name : Dell Range and Van Buren PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

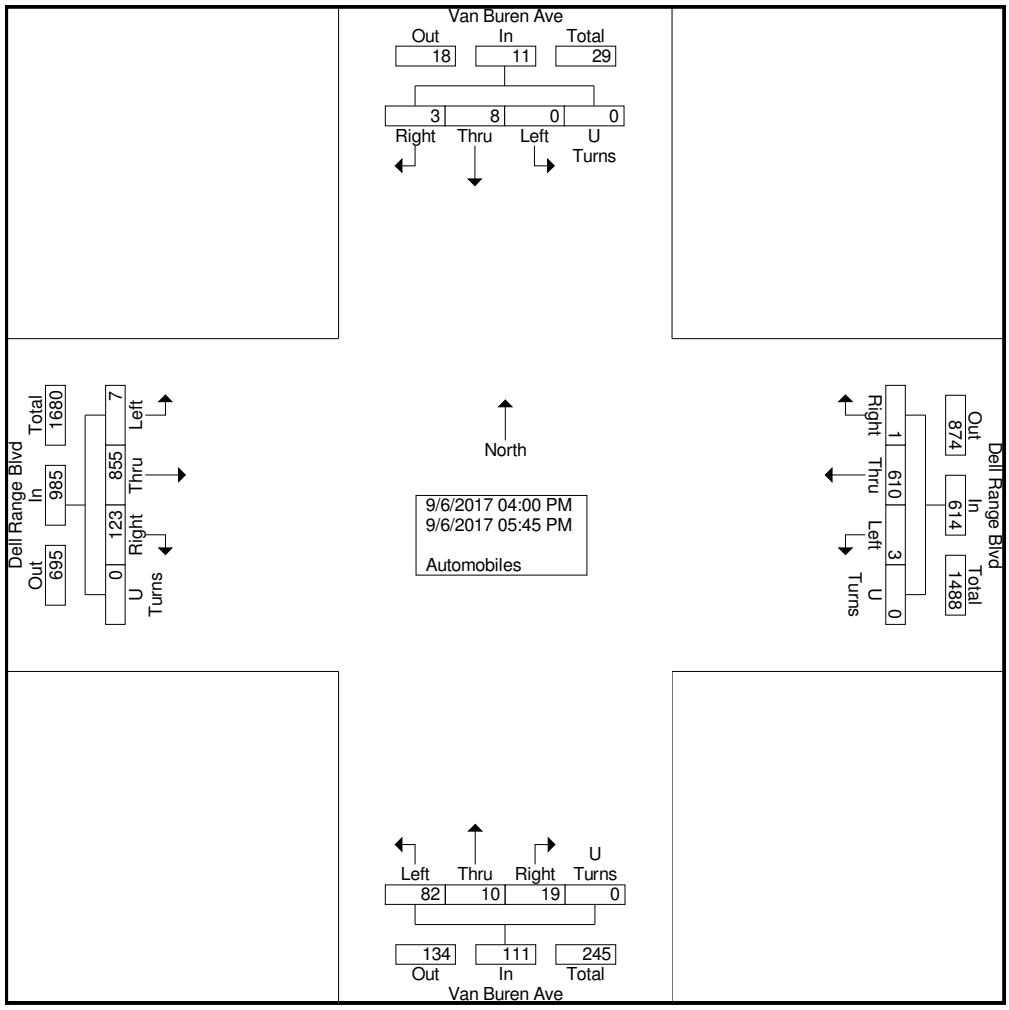
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Van Buren Ave Northbound					Van Buren Ave Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	1	96	11	0	108	0	62	0	0	62	10	0	2	0	12	0	0	1	0	1	183
04:15 PM	1	102	13	0	116	0	58	1	0	59	9	3	2	0	14	0	0	0	0	0	189
04:30 PM	0	102	15	0	117	0	98	0	0	98	12	0	5	0	17	0	3	0	0	3	235
04:45 PM	0	107	17	0	124	0	66	0	0	66	15	0	6	0	21	0	1	0	0	1	212
Total	2	407	56	0	465	0	284	1	0	285	46	3	15	0	64	0	4	1	0	5	819
05:00 PM	1	114	12	0	127	0	97	0	0	97	7	2	1	0	10	0	0	1	0	1	235
05:15 PM	0	109	17	0	126	0	84	0	0	84	8	2	1	0	11	0	2	0	0	2	223
05:30 PM	1	128	19	0	148	1	84	0	0	85	8	1	2	0	11	0	0	0	0	0	244
05:45 PM	3	97	19	0	119	2	61	0	0	63	13	2	0	0	15	0	2	1	0	3	200
Total	5	448	67	0	520	3	326	0	0	329	36	7	4	0	47	0	4	2	0	6	902
Grand Total	7	855	123	0	985	3	610	1	0	614	82	10	19	0	111	0	8	3	0	11	1721
Apprch %	0.7	86.8	12.5	0		0.5	99.3	0.2	0		73.9	9	17.1	0		0	72.7	27.3	0		
Total %	0.4	49.7	7.1	0	57.2	0.2	35.4	0.1	0	35.7	4.8	0.6	1.1	0	6.4	0	0.5	0.2	0	0.6	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Van Buren Ave

File Name : Dell Range and Van Buren PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



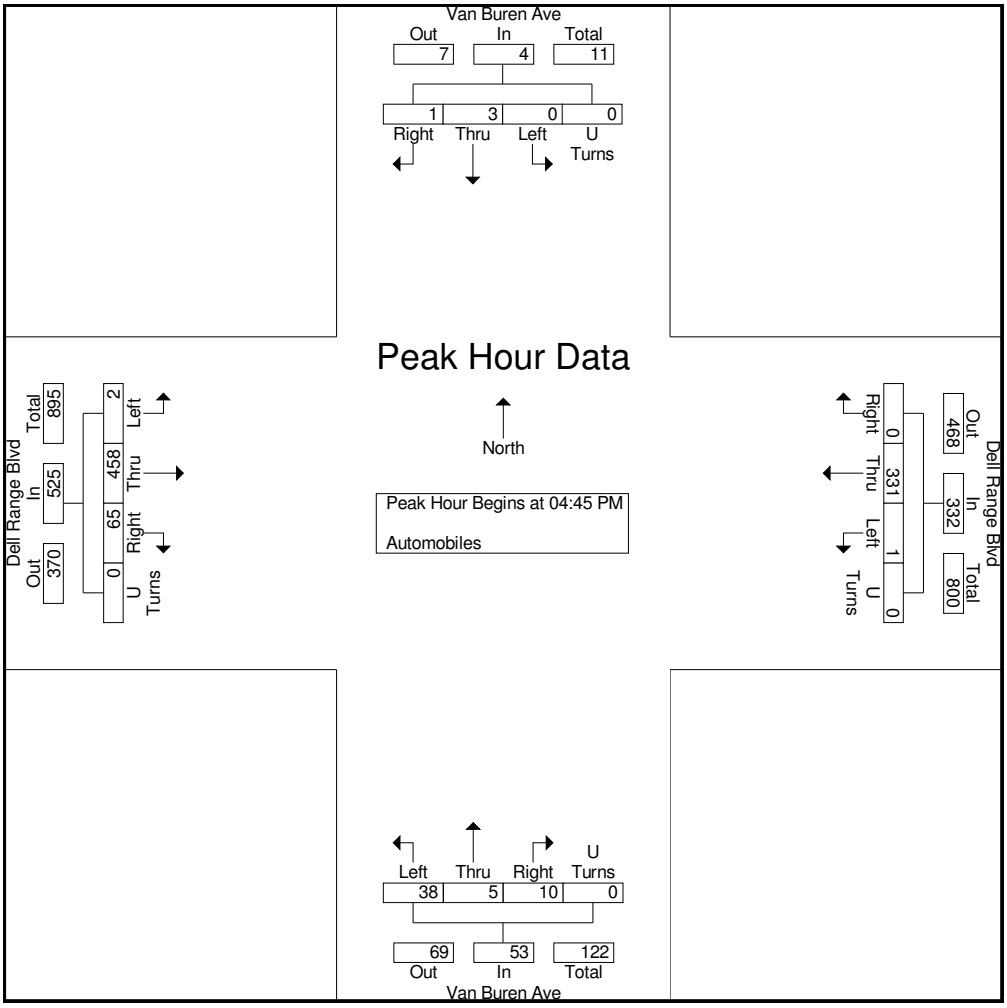
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Van Buren Ave

File Name : Dell Range and Van Buren PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Van Buren Ave Northbound					Van Buren Ave Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	107	17	0	124	0	66	0	0	66	15	0	6	0	21	0	1	0	0	1	212
05:00 PM	1	114	12	0	127	0	97	0	0	97	7	2	1	0	10	0	0	1	0	1	235
05:15 PM	0	109	17	0	126	0	84	0	0	84	8	2	1	0	11	0	2	0	0	2	223
05:30 PM	1	128	19	0	148	1	84	0	0	85	8	1	2	0	11	0	0	0	0	0	244
Total Volume	2	458	65	0	525	1	331	0	0	332	38	5	10	0	53	0	3	1	0	4	914
% App. Total	0.4	87.2	12.4	0		0.3	99.7	0	0		71.7	9.4	18.9	0		0	75	25	0		
PHF	.500	.895	.855	.000	.887	.250	.853	.000	.000	.856	.633	.625	.417	.000	.631	.000	.375	.250	.000	.500	.936



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Gysel Pl/El Camino

File Name : Dell Range and Gysel El Camino AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

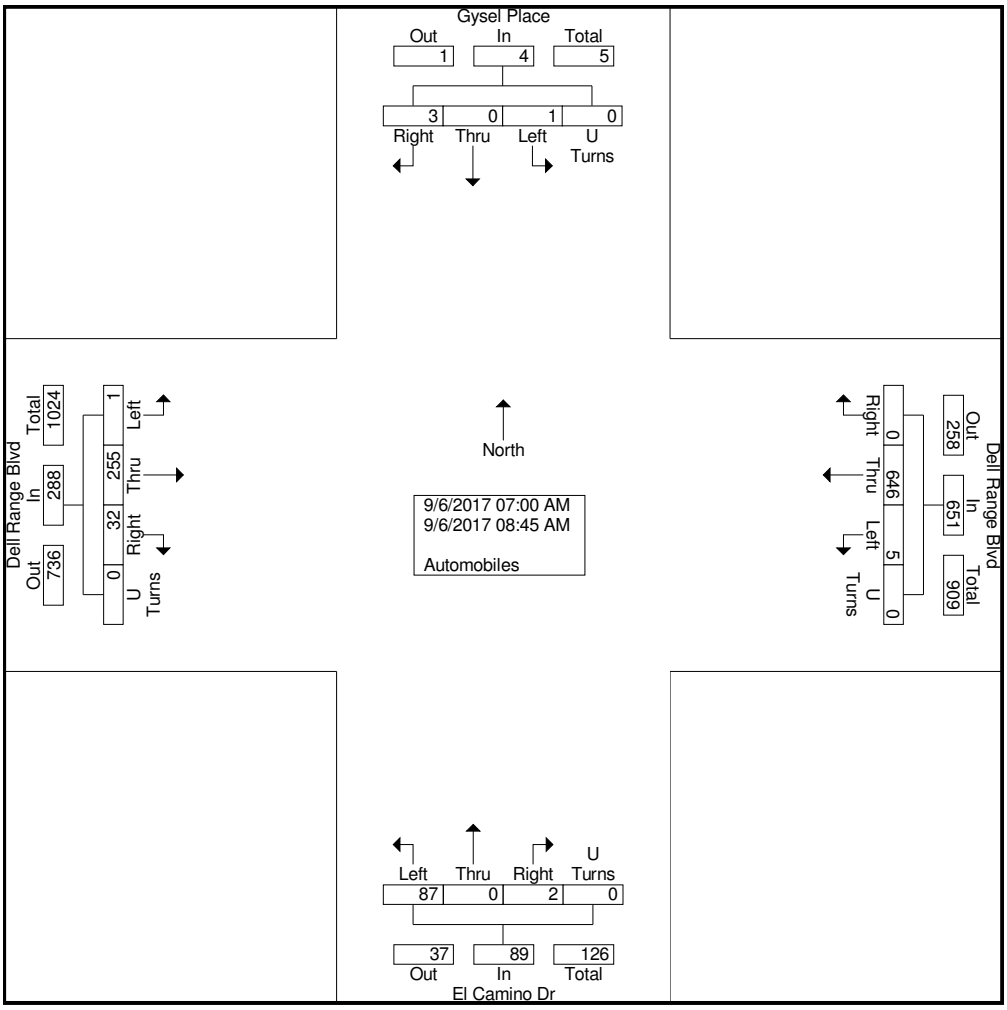
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					El Camino Dr Northbound					Gysel Place Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	21	2	0	23	2	89	0	0	91	13	0	1	0	14	0	0	0	0	0	128
07:15 AM	0	24	7	0	31	1	94	0	0	95	19	0	0	0	19	0	0	0	0	0	145
07:30 AM	0	32	4	0	36	0	96	0	0	96	9	0	0	0	9	0	0	0	0	0	141
07:45 AM	0	45	5	0	50	0	91	0	0	91	16	0	0	0	16	0	0	0	0	0	157
Total	0	122	18	0	140	3	370	0	0	373	57	0	1	0	58	0	0	0	0	0	571
08:00 AM	0	34	6	0	40	0	98	0	0	98	4	0	0	0	4	0	0	0	0	0	142
08:15 AM	1	39	2	0	42	0	65	0	0	65	10	0	0	0	10	0	0	1	0	1	118
08:30 AM	0	30	3	0	33	1	47	0	0	48	4	0	1	0	5	1	0	1	0	2	88
08:45 AM	0	30	3	0	33	1	66	0	0	67	12	0	0	0	12	0	0	1	0	1	113
Total	1	133	14	0	148	2	276	0	0	278	30	0	1	0	31	1	0	3	0	4	461
Grand Total	1	255	32	0	288	5	646	0	0	651	87	0	2	0	89	1	0	3	0	4	1032
Apprch %	0.3	88.5	11.1	0		0.8	99.2	0	0		97.8	0	2.2	0		25	0	75	0		
Total %	0.1	24.7	3.1	0	27.9	0.5	62.6	0	0	63.1	8.4	0	0.2	0	8.6	0.1	0	0.3	0	0.4	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Gysel Pl/El Camino

File Name : Dell Range and Gysel El Camino AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



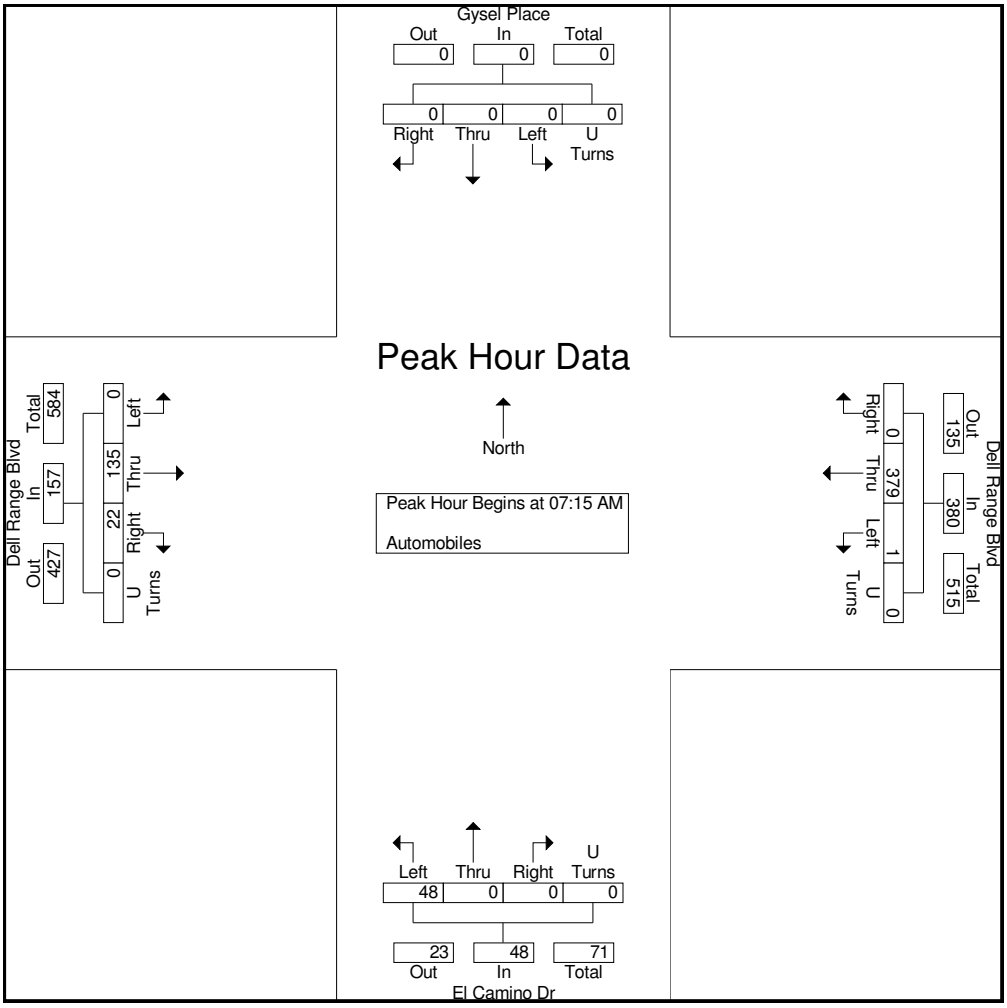
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Gysel Pl/El Camino

File Name : Dell Range and Gysel El Camino AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					El Camino Dr Northbound					Gysel Place Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	24	7	0	31	1	94	0	0	95	19	0	0	0	19	0	0	0	0	0	145
07:30 AM	0	32	4	0	36	0	96	0	0	96	9	0	0	0	9	0	0	0	0	0	141
07:45 AM	0	45	5	0	50	0	91	0	0	91	16	0	0	0	16	0	0	0	0	0	157
08:00 AM	0	34	6	0	40	0	98	0	0	98	4	0	0	0	4	0	0	0	0	0	142
Total Volume	0	135	22	0	157	1	379	0	0	380	48	0	0	0	48	0	0	0	0	0	585
% App. Total	0	86	14	0		0.3	99.7	0	0		100	0	0	0		0	0	0	0		
PHF	.000	.750	.786	.000	.785	.250	.967	.000	.000	.969	.632	.000	.000	.000	.632	.000	.000	.000	.000	.000	.932



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Gysel Pl/El Camino

File Name : Dell Range and Gysel El Camino PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

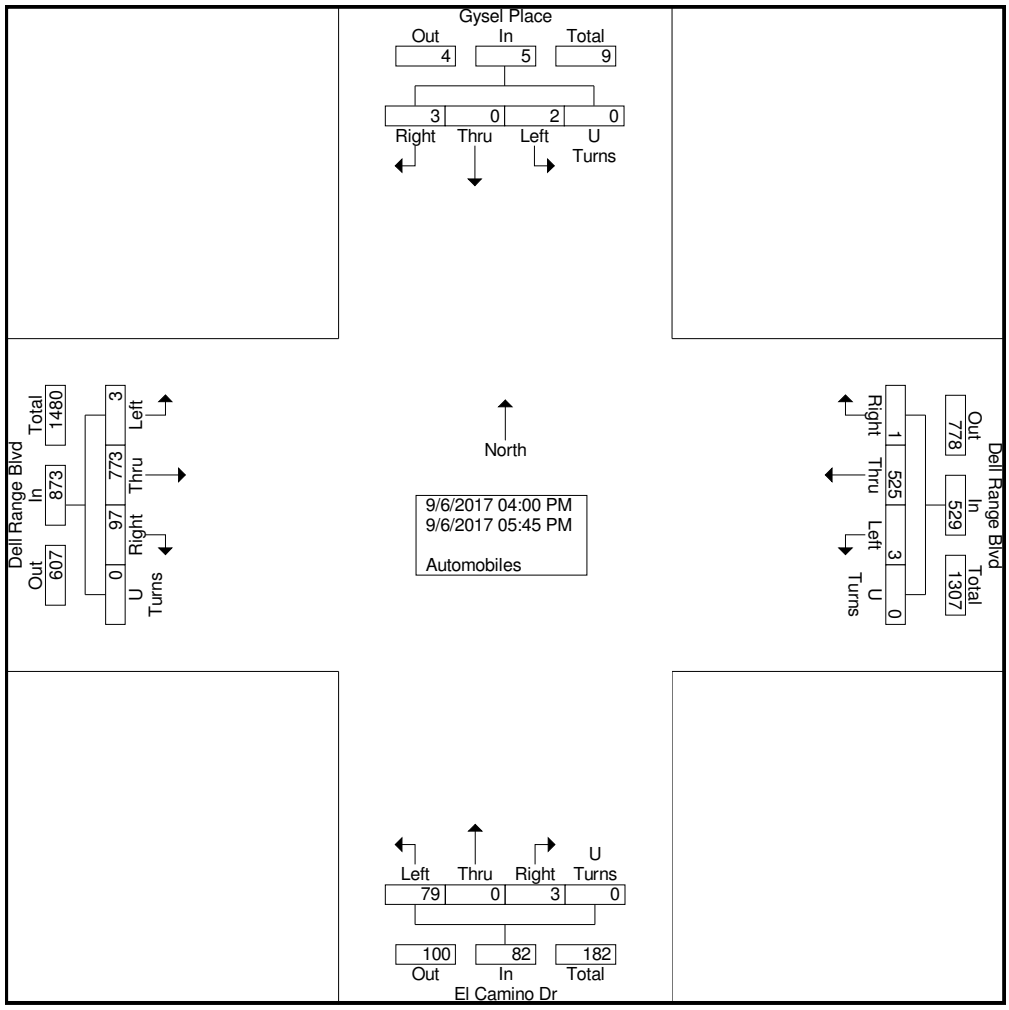
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					El Camino Dr Northbound					Gysel Place Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	0	89	10	0	99	1	50	0	0	51	7	0	0	0	7	0	0	1	0	1	158
04:15 PM	0	89	13	0	102	1	54	1	0	56	6	0	0	0	6	0	0	0	0	0	164
04:30 PM	2	94	11	0	107	0	73	0	0	73	21	0	1	0	22	2	0	1	0	3	205
04:45 PM	0	98	13	0	111	0	57	0	0	57	7	0	0	0	7	0	0	0	0	0	175
Total	2	370	47	0	419	2	234	1	0	237	41	0	1	0	42	2	0	2	0	4	702
05:00 PM	0	105	14	0	119	0	91	0	0	91	7	0	0	0	7	0	0	0	0	0	217
05:15 PM	0	93	15	0	108	0	73	0	0	73	11	0	0	0	11	0	0	1	0	1	193
05:30 PM	1	120	9	0	130	1	71	0	0	72	13	0	0	0	13	0	0	0	0	0	215
05:45 PM	0	85	12	0	97	0	56	0	0	56	7	0	2	0	9	0	0	0	0	0	162
Total	1	403	50	0	454	1	291	0	0	292	38	0	2	0	40	0	0	1	0	1	787
Grand Total	3	773	97	0	873	3	525	1	0	529	79	0	3	0	82	2	0	3	0	5	1489
Apprch %	0.3	88.5	11.1	0		0.6	99.2	0.2	0		96.3	0	3.7	0		40	0	60	0		
Total %	0.2	51.9	6.5	0	58.6	0.2	35.3	0.1	0	35.5	5.3	0	0.2	0	5.5	0.1	0	0.2	0	0.3	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Gysel Pl/El Camino

File Name : Dell Range and Gysel El Camino PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



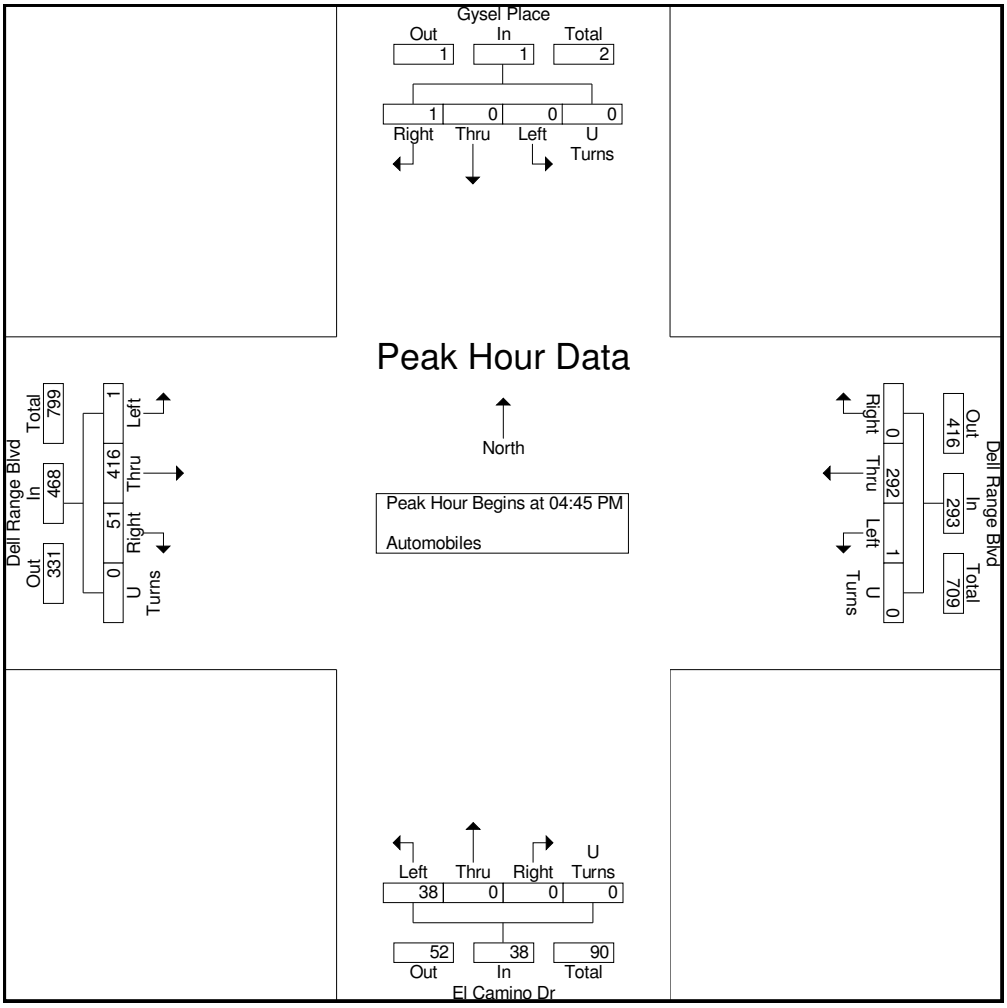
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Gysel Pl/El Camino

File Name : Dell Range and Gysel El Camino PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					El Camino Dr Northbound					Gysel Place Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	98	13	0	111	0	57	0	0	57	7	0	0	0	7	0	0	0	0	0	175
05:00 PM	0	105	14	0	119	0	91	0	0	91	7	0	0	0	7	0	0	0	0	0	217
05:15 PM	0	93	15	0	108	0	73	0	0	73	11	0	0	0	11	0	0	1	0	1	193
05:30 PM	1	120	9	0	130	1	71	0	0	72	13	0	0	0	13	0	0	0	0	0	215
Total Volume	1	416	51	0	468	1	292	0	0	293	38	0	0	0	38	0	0	1	0	1	800
% App. Total	0.2	88.9	10.9	0		0.3	99.7	0	0		100	0	0	0		0	0	100	0		
PHF	.250	.867	.850	.000	.900	.250	.802	.000	.000	.805	.731	.000	.000	.000	.731	.000	.000	.250	.000	.250	.922



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and James Dr

File Name : Dell Range and James AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

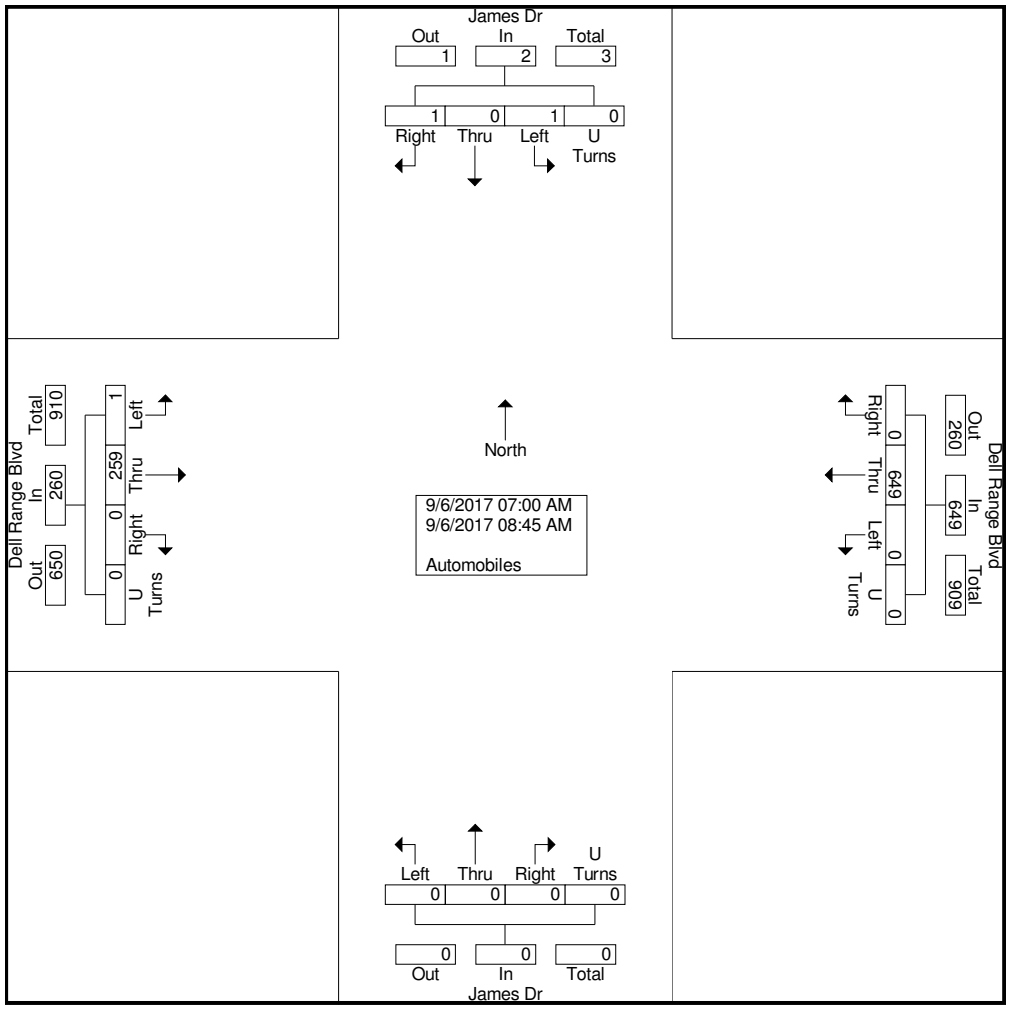
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					James Dr Northbound					James Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	24	0	0	24	0	91	0	0	91	0	0	0	0	0	0	0	0	0	0	115
07:15 AM	0	24	0	0	24	0	94	0	0	94	0	0	0	0	0	0	0	0	0	0	118
07:30 AM	0	31	0	0	31	0	98	0	0	98	0	0	0	0	0	0	0	0	0	0	129
07:45 AM	0	47	0	0	47	0	90	0	0	90	0	0	0	0	0	0	0	0	0	0	137
Total	0	126	0	0	126	0	373	0	0	373	0	0	0	0	0	0	0	0	0	0	499
08:00 AM	0	32	0	0	32	0	99	0	0	99	0	0	0	0	0	1	0	1	0	2	133
08:15 AM	1	37	0	0	38	0	64	0	0	64	0	0	0	0	0	0	0	0	0	0	102
08:30 AM	0	34	0	0	34	0	48	0	0	48	0	0	0	0	0	0	0	0	0	0	82
08:45 AM	0	30	0	0	30	0	65	0	0	65	0	0	0	0	0	0	0	0	0	0	95
Total	1	133	0	0	134	0	276	0	0	276	0	0	0	0	0	1	0	1	0	2	412
Grand Total	1	259	0	0	260	0	649	0	0	649	0	0	0	0	0	1	0	1	0	2	911
Apprch %	0.4	99.6	0	0		0	100	0	0		0	0	0	0		50	0	50	0		
Total %	0.1	28.4	0	0	28.5	0	71.2	0	0	71.2	0	0	0	0	0	0.1	0	0.1	0	0.2	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and James Dr

File Name : Dell Range and James AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



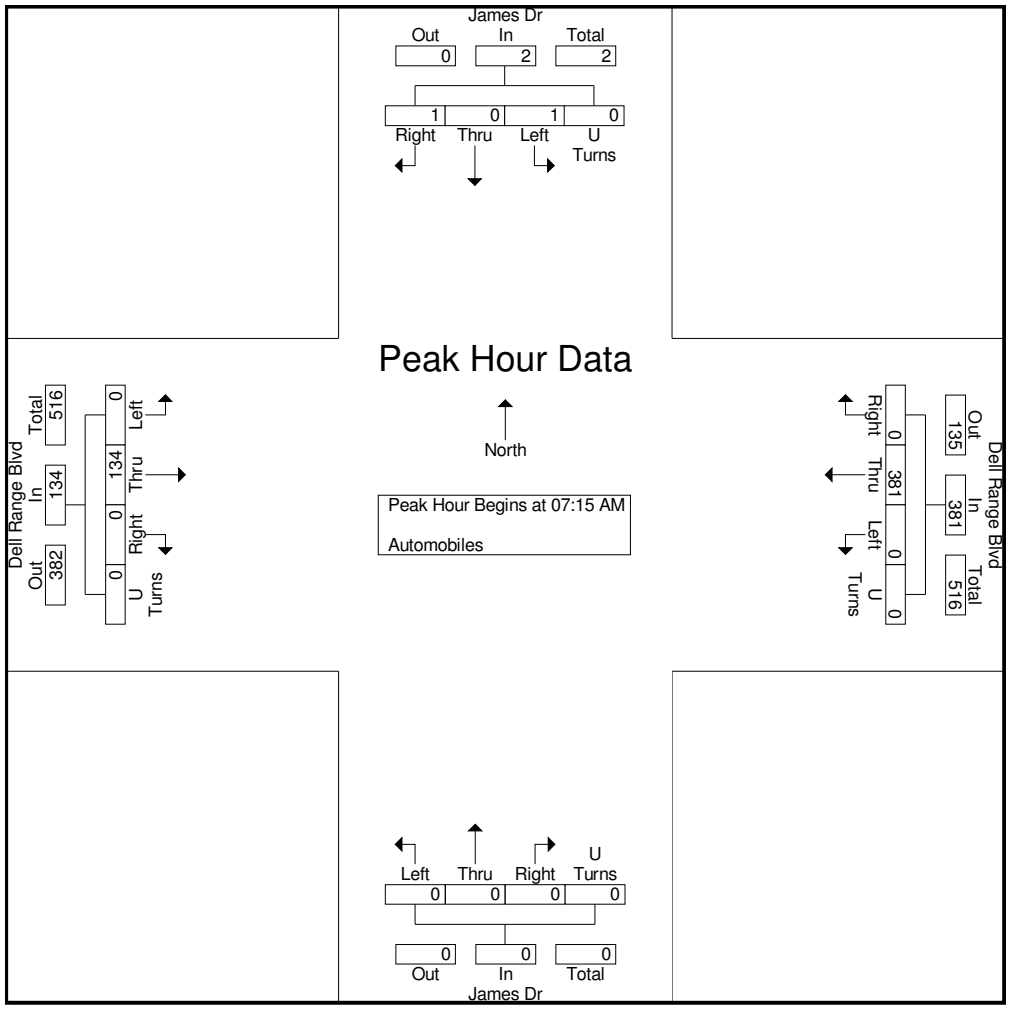
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and James Dr

File Name : Dell Range and James AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					James Dr Northbound					James Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	24	0	0	24	0	94	0	0	94	0	0	0	0	0	0	0	0	0	0	118
07:30 AM	0	31	0	0	31	0	98	0	0	98	0	0	0	0	0	0	0	0	0	0	129
07:45 AM	0	47	0	0	47	0	90	0	0	90	0	0	0	0	0	0	0	0	0	0	137
08:00 AM	0	32	0	0	32	0	99	0	0	99	0	0	0	0	0	1	0	1	0	2	133
Total Volume	0	134	0	0	134	0	381	0	0	381	0	0	0	0	0	1	0	1	0	2	517
% App. Total	0	100	0	0		0	100	0	0		0	0	0	0		50	0	50	0		
PHF	.000	.713	.000	.000	.713	.000	.962	.000	.000	.962	.000	.000	.000	.000	.000	.250	.000	.250	.000	.250	.943



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and James Dr

File Name : Dell Range and James PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

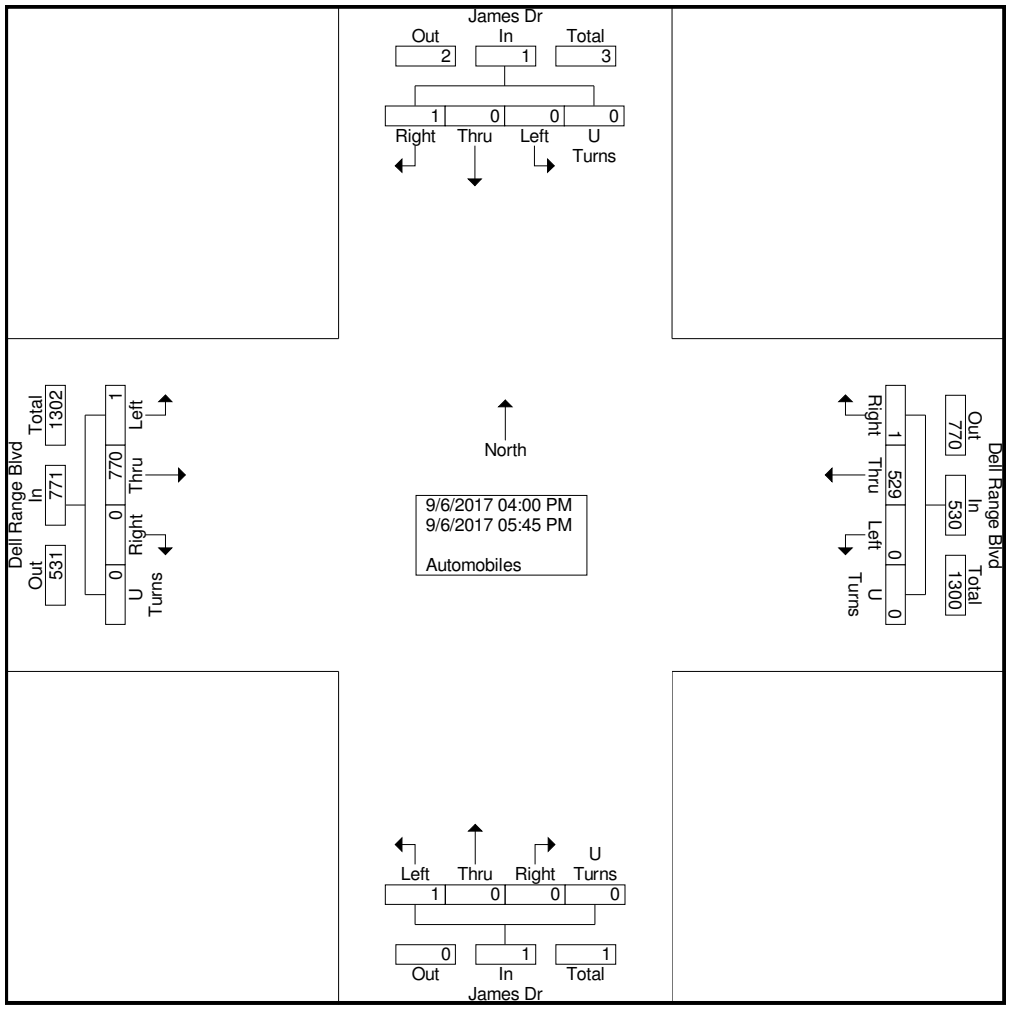
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					James Dr Northbound					James Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	0	86	0	0	86	0	53	0	0	53	0	0	0	0	0	0	0	0	0	0	139
04:15 PM	0	89	0	0	89	0	54	0	0	54	0	0	0	0	0	0	0	0	0	0	143
04:30 PM	0	93	0	0	93	0	74	0	0	74	0	0	0	0	0	0	0	0	0	0	167
04:45 PM	0	97	0	0	97	0	57	0	0	57	0	0	0	0	0	0	0	0	0	0	154
Total	0	365	0	0	365	0	238	0	0	238	0	0	0	0	0	0	0	0	0	0	603
05:00 PM	0	105	0	0	105	0	98	0	0	98	0	0	0	0	0	0	0	0	0	0	203
05:15 PM	1	95	0	0	96	0	68	0	0	68	0	0	0	0	0	0	0	0	0	0	164
05:30 PM	0	115	0	0	115	0	71	0	0	71	1	0	0	0	1	0	0	0	0	0	187
05:45 PM	0	90	0	0	90	0	54	1	0	55	0	0	0	0	0	0	0	1	0	1	146
Total	1	405	0	0	406	0	291	1	0	292	1	0	0	0	1	0	0	1	0	1	700
Grand Total	1	770	0	0	771	0	529	1	0	530	1	0	0	0	1	0	0	1	0	1	1303
Apprch %	0.1	99.9	0	0		0	99.8	0.2	0		100	0	0	0		0	0	100	0		
Total %	0.1	59.1	0	0	59.2	0	40.6	0.1	0	40.7	0.1	0	0	0	0.1	0	0	0.1	0	0.1	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and James Dr

File Name : Dell Range and James PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



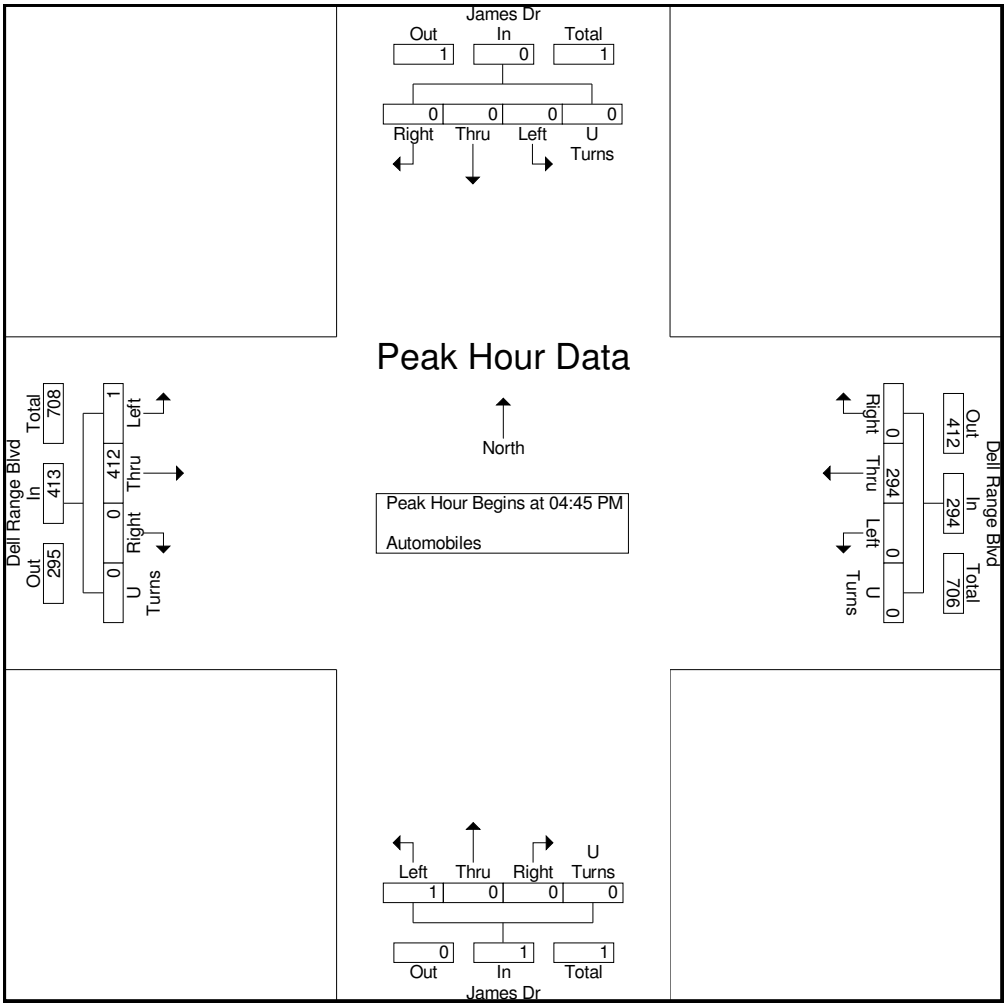
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and James Dr

File Name : Dell Range and James PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					James Dr Northbound					James Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	97	0	0	97	0	57	0	0	57	0	0	0	0	0	0	0	0	0	0	154
05:00 PM	0	105	0	0	105	0	98	0	0	98	0	0	0	0	0	0	0	0	0	0	203
05:15 PM	1	95	0	0	96	0	68	0	0	68	0	0	0	0	0	0	0	0	0	0	164
05:30 PM	0	115	0	0	115	0	71	0	0	71	1	0	0	0	1	0	0	0	0	0	187
Total Volume	1	412	0	0	413	0	294	0	0	294	1	0	0	0	1	0	0	0	0	0	708
% App. Total	0.2	99.8	0	0		0	100	0	0		100	0	0	0		0	0	0	0		
PHF	.250	.896	.000	.000	.898	.000	.750	.000	.000	.750	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.872



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Whitney Rd

File Name : Dell Range and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

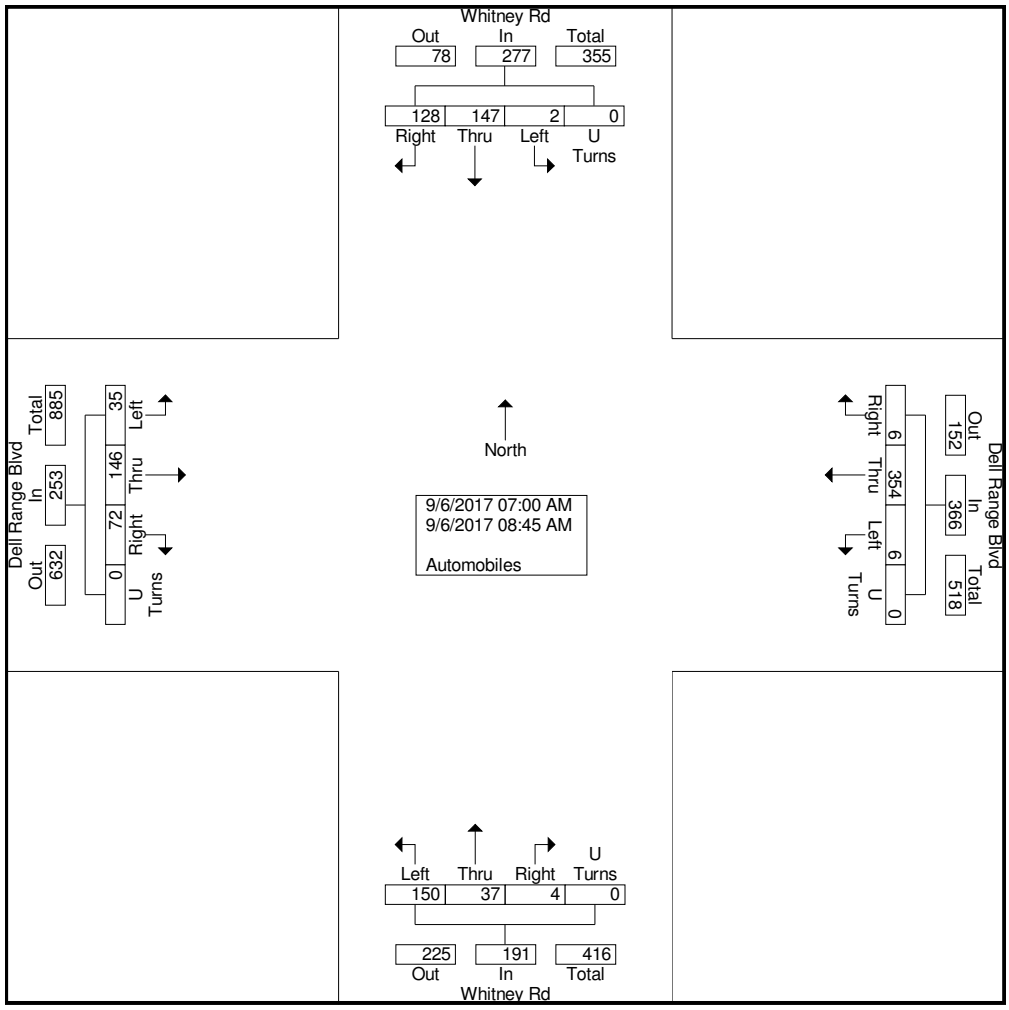
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	1	13	9	0	23	1	49	0	0	50	18	5	0	0	23	1	23	25	0	49	145
07:15 AM	2	14	8	0	24	0	51	0	0	51	15	6	0	0	21	1	35	23	0	59	155
07:30 AM	4	17	9	0	30	1	62	0	0	63	20	7	0	0	27	0	33	16	0	49	169
07:45 AM	4	20	18	0	42	2	46	3	0	51	28	4	2	0	34	0	19	16	0	35	162
Total	11	64	44	0	119	4	208	3	0	215	81	22	2	0	105	2	110	80	0	192	631
08:00 AM	3	20	12	0	35	1	48	0	0	49	23	2	1	0	26	0	9	19	0	28	138
08:15 AM	7	17	12	0	36	0	36	1	0	37	18	4	0	0	22	0	12	10	0	22	117
08:30 AM	9	23	2	0	34	1	19	2	0	22	17	6	1	0	24	0	9	10	0	19	99
08:45 AM	5	22	2	0	29	0	43	0	0	43	11	3	0	0	14	0	7	9	0	16	102
Total	24	82	28	0	134	2	146	3	0	151	69	15	2	0	86	0	37	48	0	85	456
Grand Total	35	146	72	0	253	6	354	6	0	366	150	37	4	0	191	2	147	128	0	277	1087
Apprch %	13.8	57.7	28.5	0		1.6	96.7	1.6	0		78.5	19.4	2.1	0		0.7	53.1	46.2	0		
Total %	3.2	13.4	6.6	0	23.3	0.6	32.6	0.6	0	33.7	13.8	3.4	0.4	0	17.6	0.2	13.5	11.8	0	25.5	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Whitney Rd

File Name : Dell Range and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



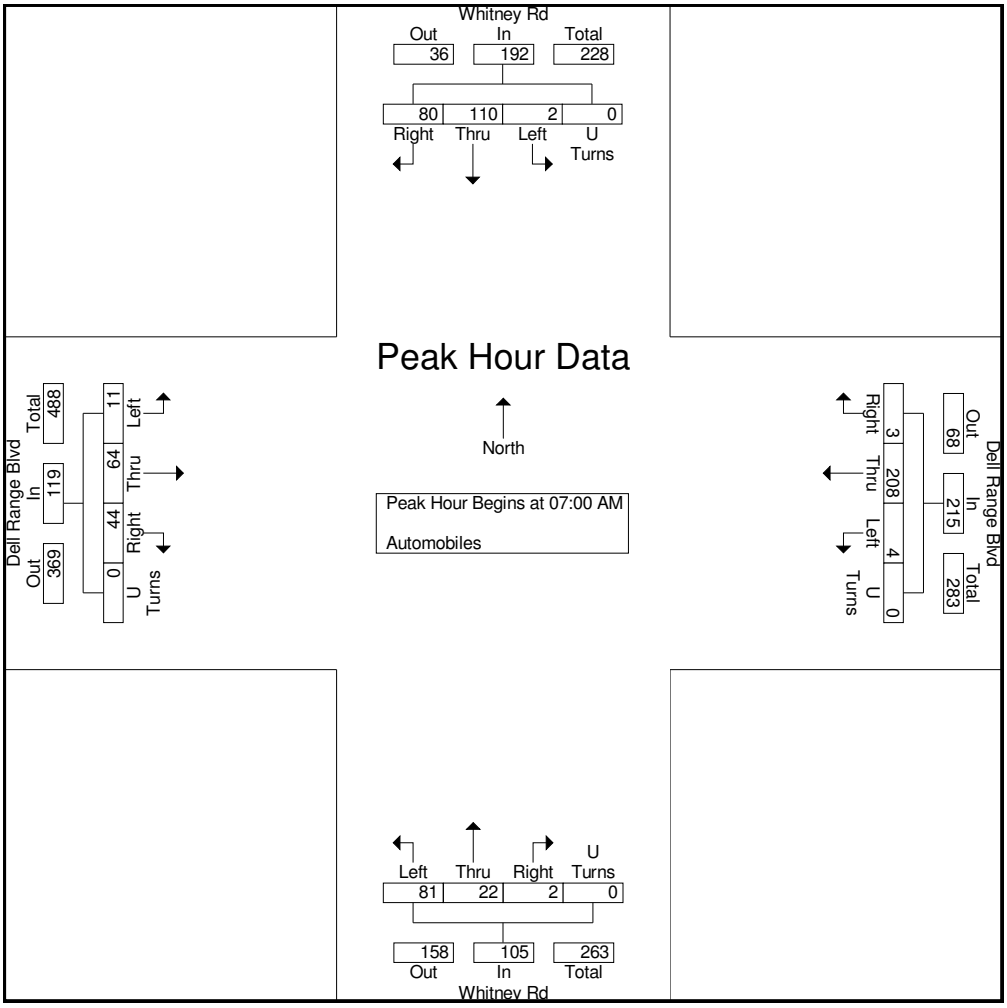
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and Whitney Rd

File Name : Dell Range and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	1	13	9	0	23	1	49	0	0	50	18	5	0	0	23	1	23	25	0	49	145
07:15 AM	2	14	8	0	24	0	51	0	0	51	15	6	0	0	21	1	35	23	0	59	155
07:30 AM	4	17	9	0	30	1	62	0	0	63	20	7	0	0	27	0	33	16	0	49	169
07:45 AM	4	20	18	0	42	2	46	3	0	51	28	4	2	0	34	0	19	16	0	35	162
Total Volume	11	64	44	0	119	4	208	3	0	215	81	22	2	0	105	2	110	80	0	192	631
% App. Total	9.2	53.8	37	0		1.9	96.7	1.4	0		77.1	21	1.9	0		1	57.3	41.7	0		
PHF	.688	.800	.611	.000	.708	.500	.839	.250	.000	.853	.723	.786	.250	.000	.772	.500	.786	.800	.000	.814	.933



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Whitney Rd

File Name : Dell Range and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

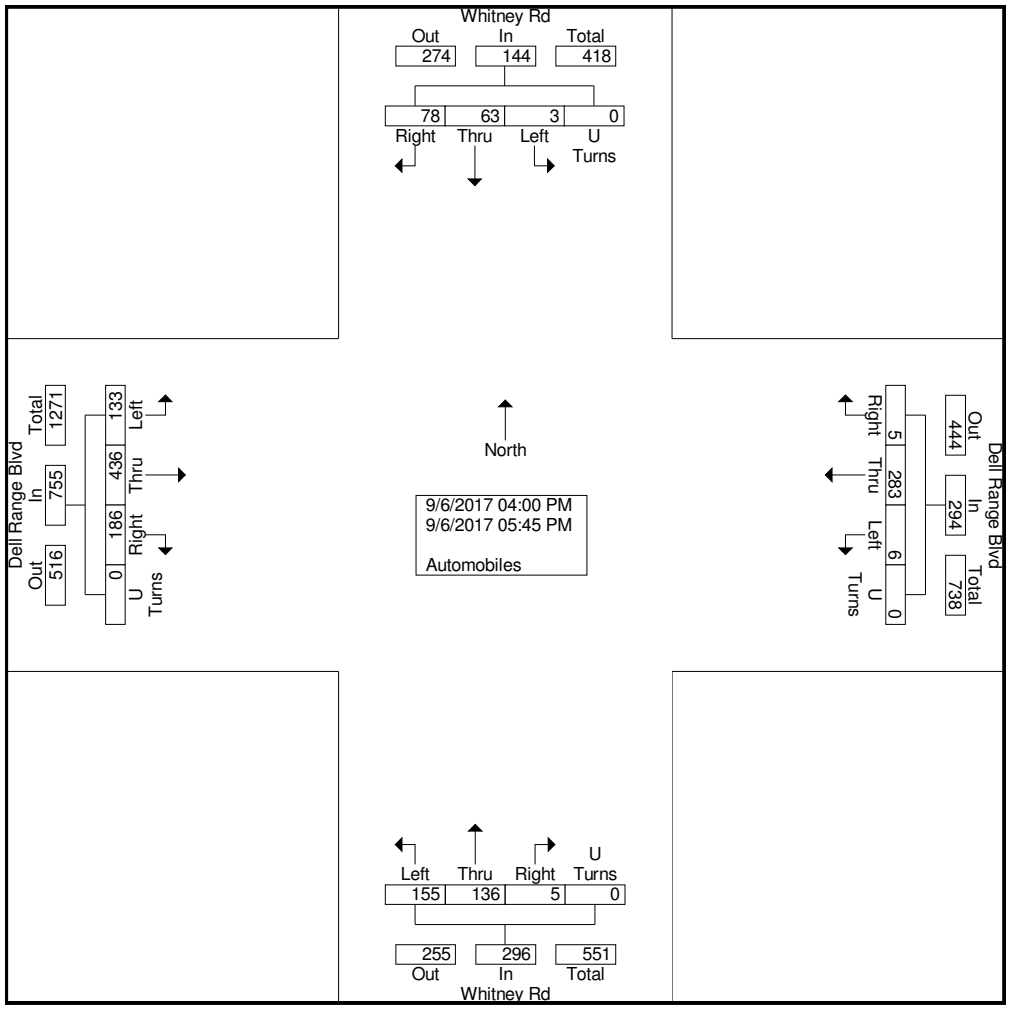
	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	20	46	18	0	84	0	36	0	0	36	11	12	1	0	24	0	7	7	0	14	158
04:15 PM	17	58	15	0	90	1	35	1	0	37	12	15	1	0	28	1	4	10	0	15	170
04:30 PM	15	54	23	0	92	0	49	0	0	49	17	18	0	0	35	0	9	10	0	19	195
04:45 PM	18	56	19	0	93	0	28	1	0	29	14	12	2	0	28	1	12	7	0	20	170
Total	70	214	75	0	359	1	148	2	0	151	54	57	4	0	115	2	32	34	0	68	693
05:00 PM	11	58	35	0	104	1	42	2	0	45	30	22	0	0	52	1	8	15	0	24	225
05:15 PM	17	49	25	0	91	1	30	1	0	32	30	24	0	0	54	0	13	10	0	23	200
05:30 PM	16	61	31	0	108	1	39	0	0	40	20	20	1	0	41	0	3	12	0	15	204
05:45 PM	19	54	20	0	93	2	24	0	0	26	21	13	0	0	34	0	7	7	0	14	167
Total	63	222	111	0	396	5	135	3	0	143	101	79	1	0	181	1	31	44	0	76	796
Grand Total	133	436	186	0	755	6	283	5	0	294	155	136	5	0	296	3	63	78	0	144	1489
Apprch %	17.6	57.7	24.6	0		2	96.3	1.7	0		52.4	45.9	1.7	0		2.1	43.8	54.2	0		
Total %	8.9	29.3	12.5	0	50.7	0.4	19	0.3	0	19.7	10.4	9.1	0.3	0	19.9	0.2	4.2	5.2	0	9.7	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Whitney Rd

File Name : Dell Range and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



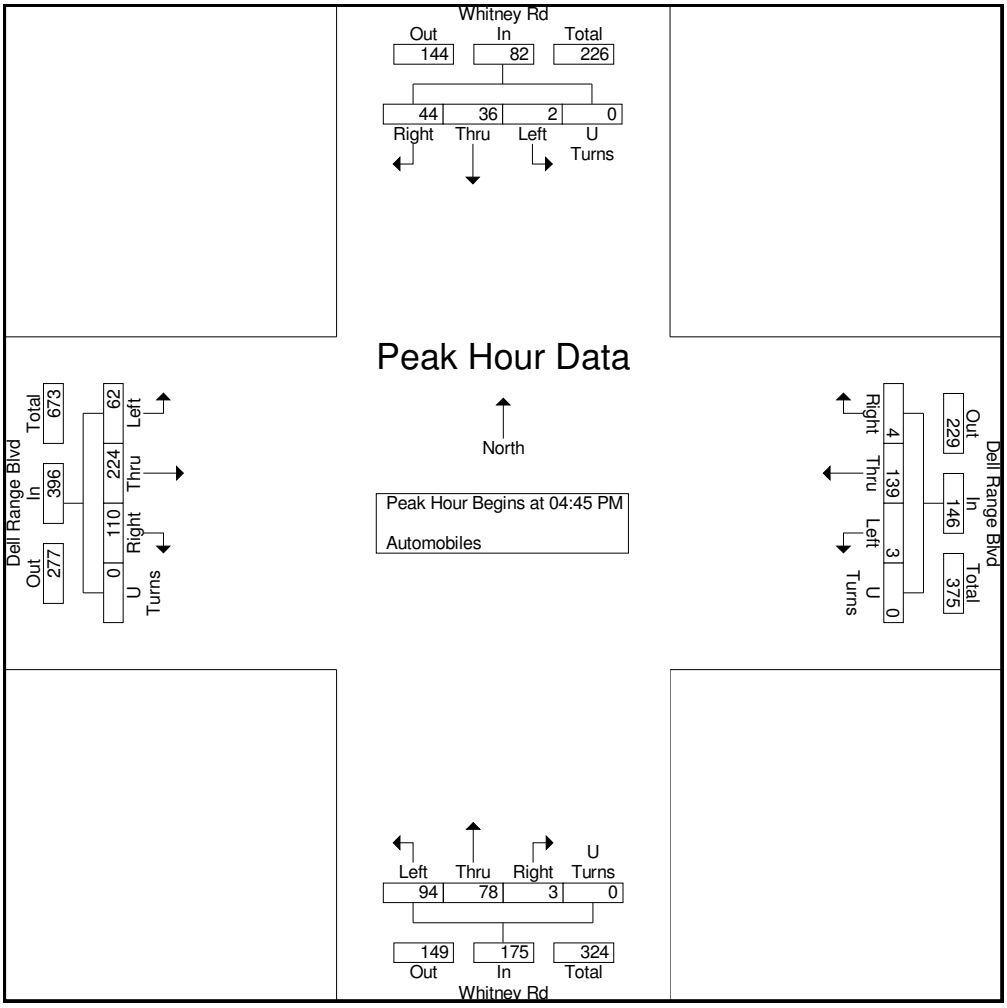
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and Whitney Rd

File Name : Dell Range and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Dell Range Blvd Eastbound					Dell Range Blvd Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	18	56	19	0	93	0	28	1	0	29	14	12	2	0	28	1	12	7	0	20	170
05:00 PM	11	58	35	0	104	1	42	2	0	45	30	22	0	0	52	1	8	15	0	24	225
05:15 PM	17	49	25	0	91	1	30	1	0	32	30	24	0	0	54	0	13	10	0	23	200
05:30 PM	16	61	31	0	108	1	39	0	0	40	20	20	1	0	41	0	3	12	0	15	204
Total Volume	62	224	110	0	396	3	139	4	0	146	94	78	3	0	175	2	36	44	0	82	799
% App. Total	15.7	56.6	27.8	0		2.1	95.2	2.7	0		53.7	44.6	1.7	0		2.4	43.9	53.7	0		
PHF	.861	.918	.786	.000	.917	.750	.827	.500	.000	.811	.783	.813	.375	.000	.810	.500	.692	.733	.000	.854	.888



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and US-30

File Name : Dell Range and US-30 AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

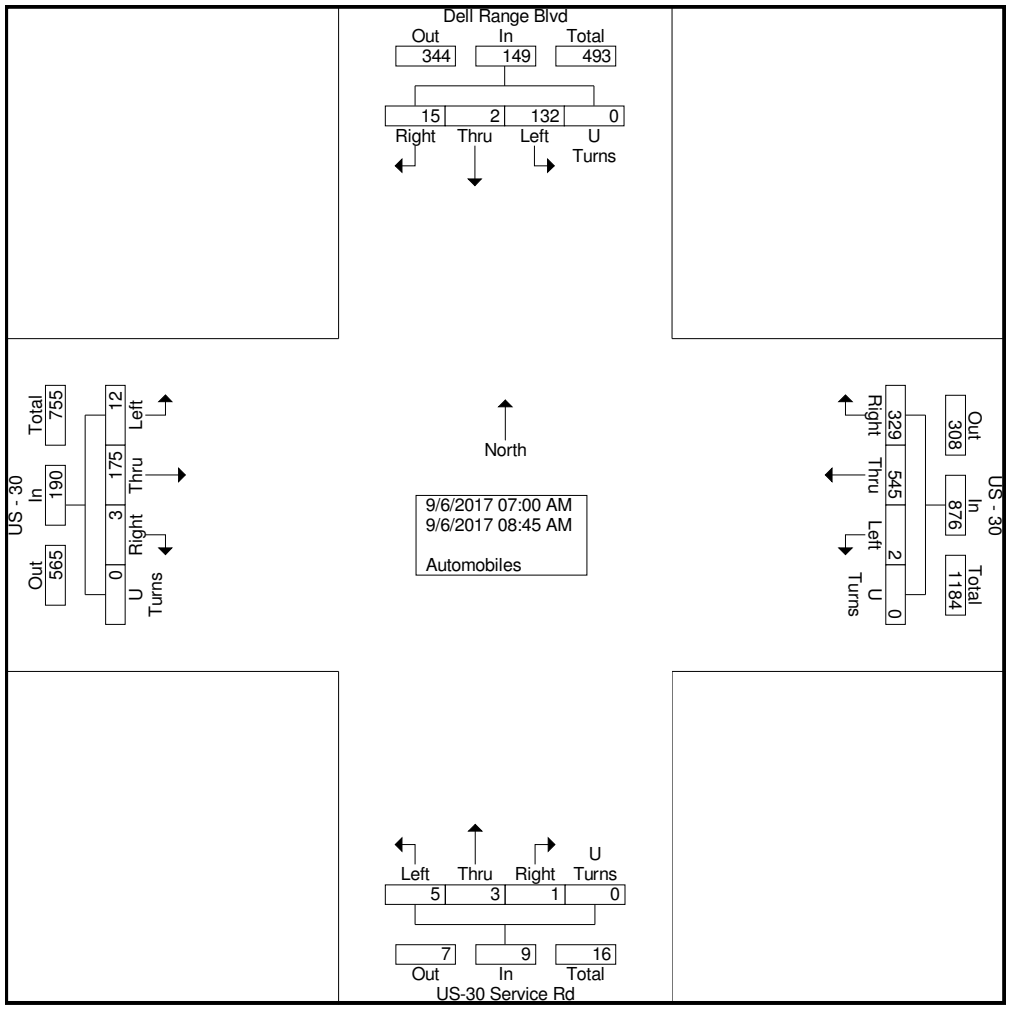
	US - 30 Eastbound					US - 30 Westbound					US-30 Service Rd Northbound					Dell Range Blvd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	19	0	0	19	0	87	51	0	138	0	0	0	0	0	13	0	1	0	14	171
07:15 AM	1	23	0	0	24	0	119	46	0	165	0	0	0	0	0	11	0	3	0	14	203
07:30 AM	0	21	0	0	21	0	101	57	0	158	0	1	0	0	1	18	0	1	0	19	199
07:45 AM	6	28	0	0	34	1	71	44	0	116	0	1	0	0	1	20	0	5	0	25	176
Total	7	91	0	0	98	1	378	198	0	577	0	2	0	0	2	62	0	10	0	72	749
08:00 AM	3	19	2	0	24	0	47	43	0	90	1	1	0	0	2	16	0	1	0	17	133
08:15 AM	1	36	0	0	37	0	56	26	0	82	3	0	1	0	4	12	1	1	0	14	137
08:30 AM	1	14	0	0	15	0	32	19	0	51	1	0	0	0	1	26	0	3	0	29	96
08:45 AM	0	15	1	0	16	1	32	43	0	76	0	0	0	0	0	16	1	0	0	17	109
Total	5	84	3	0	92	1	167	131	0	299	5	1	1	0	7	70	2	5	0	77	475
Grand Total	12	175	3	0	190	2	545	329	0	876	5	3	1	0	9	132	2	15	0	149	1224
Apprch %	6.3	92.1	1.6	0		0.2	62.2	37.6	0		55.6	33.3	11.1	0		88.6	1.3	10.1	0		
Total %	1	14.3	0.2	0	15.5	0.2	44.5	26.9	0	71.6	0.4	0.2	0.1	0	0.7	10.8	0.2	1.2	0	12.2	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and US-30

File Name : Dell Range and US-30 AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



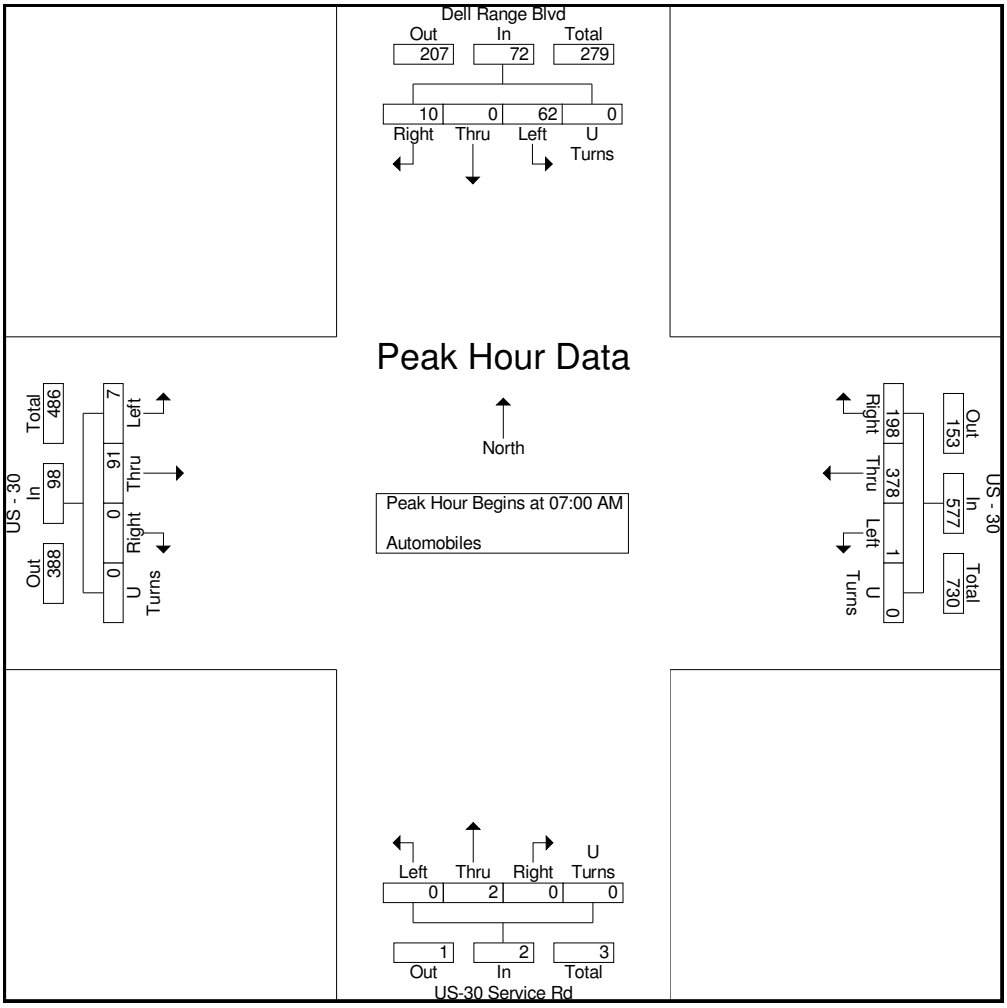
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Dell Range Blvd and US-30

File Name : Dell Range and US-30 AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	US - 30 Eastbound					US - 30 Westbound					US-30 Service Rd Northbound					Dell Range Blvd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	19	0	0	19	0	87	51	0	138	0	0	0	0	0	13	0	1	0	14	171
07:15 AM	1	23	0	0	24	0	119	46	0	165	0	0	0	0	0	11	0	3	0	14	203
07:30 AM	0	21	0	0	21	0	101	57	0	158	0	1	0	0	1	18	0	1	0	19	199
07:45 AM	6	28	0	0	34	1	71	44	0	116	0	1	0	0	1	20	0	5	0	25	176
Total Volume	7	91	0	0	98	1	378	198	0	577	0	2	0	0	2	62	0	10	0	72	749
% App. Total	7.1	92.9	0	0		0.2	65.5	34.3	0		0	100	0	0		86.1	0	13.9	0		
PHF	.292	.813	.000	.000	.721	.250	.794	.868	.000	.874	.000	.500	.000	.000	.500	.775	.000	.500	.000	.720	.922



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and US-30

File Name : Dell Range and US-30 PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

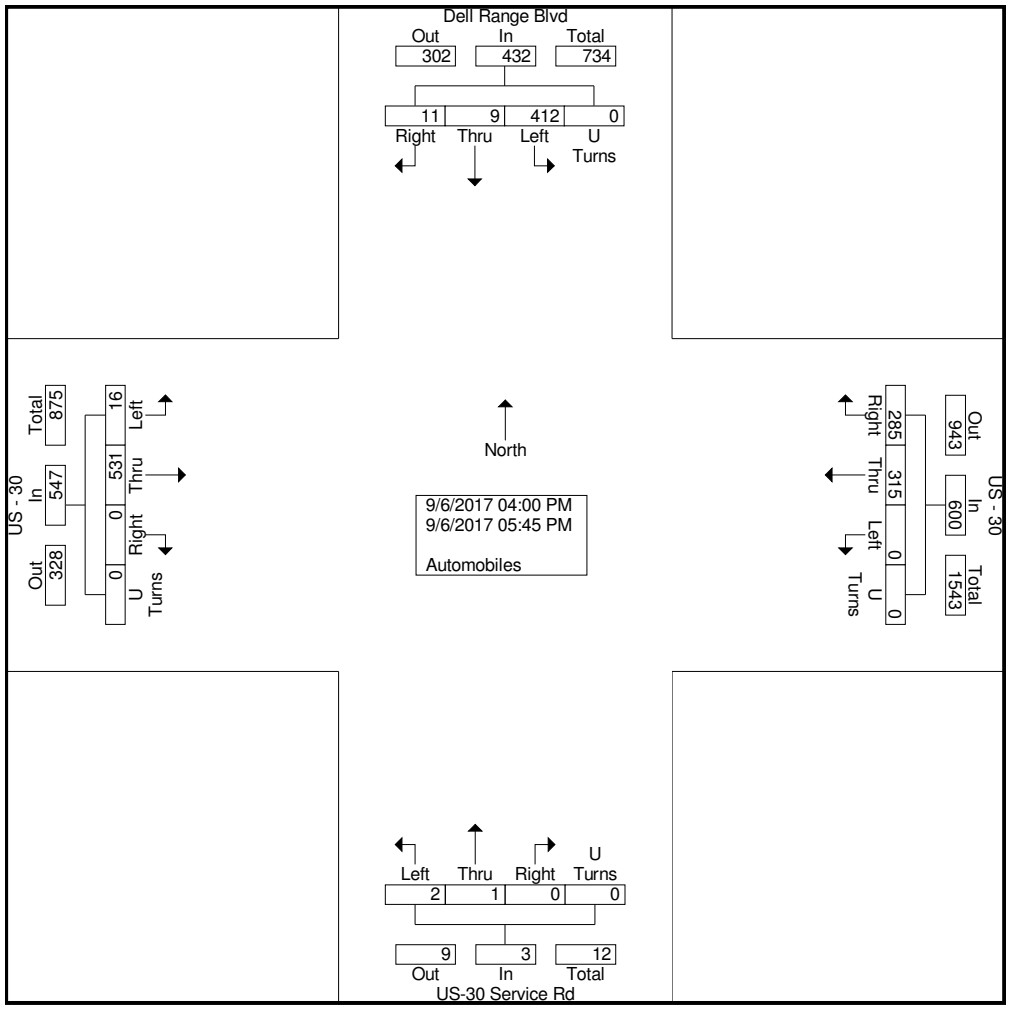
	US - 30 Eastbound					US - 30 Westbound					US-30 Service Rd Northbound					Dell Range Blvd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	3	50	0	0	53	0	34	41	0	75	1	0	0	0	1	46	1	3	0	50	179
04:15 PM	1	61	0	0	62	0	48	34	0	82	0	0	0	0	0	57	1	0	0	58	202
04:30 PM	3	62	0	0	65	0	48	48	0	96	0	0	0	0	0	53	0	1	0	54	215
04:45 PM	2	59	0	0	61	0	33	25	0	58	0	0	0	0	0	49	2	1	0	52	171
Total	9	232	0	0	241	0	163	148	0	311	1	0	0	0	1	205	4	5	0	214	767
05:00 PM	1	82	0	0	83	0	35	45	0	80	0	1	0	0	1	53	0	1	0	54	218
05:15 PM	3	79	0	0	82	0	35	33	0	68	0	0	0	0	0	46	2	1	0	49	199
05:30 PM	1	86	0	0	87	0	44	37	0	81	1	0	0	0	1	61	0	2	0	63	232
05:45 PM	2	52	0	0	54	0	38	22	0	60	0	0	0	0	0	47	3	2	0	52	166
Total	7	299	0	0	306	0	152	137	0	289	1	1	0	0	2	207	5	6	0	218	815
Grand Total	16	531	0	0	547	0	315	285	0	600	2	1	0	0	3	412	9	11	0	432	1582
Apprch %	2.9	97.1	0	0		0	52.5	47.5	0		66.7	33.3	0	0		95.4	2.1	2.5	0		
Total %	1	33.6	0	0	34.6	0	19.9	18	0	37.9	0.1	0.1	0	0	0.2	26	0.6	0.7	0	27.3	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and US-30

File Name : Dell Range and US-30 PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



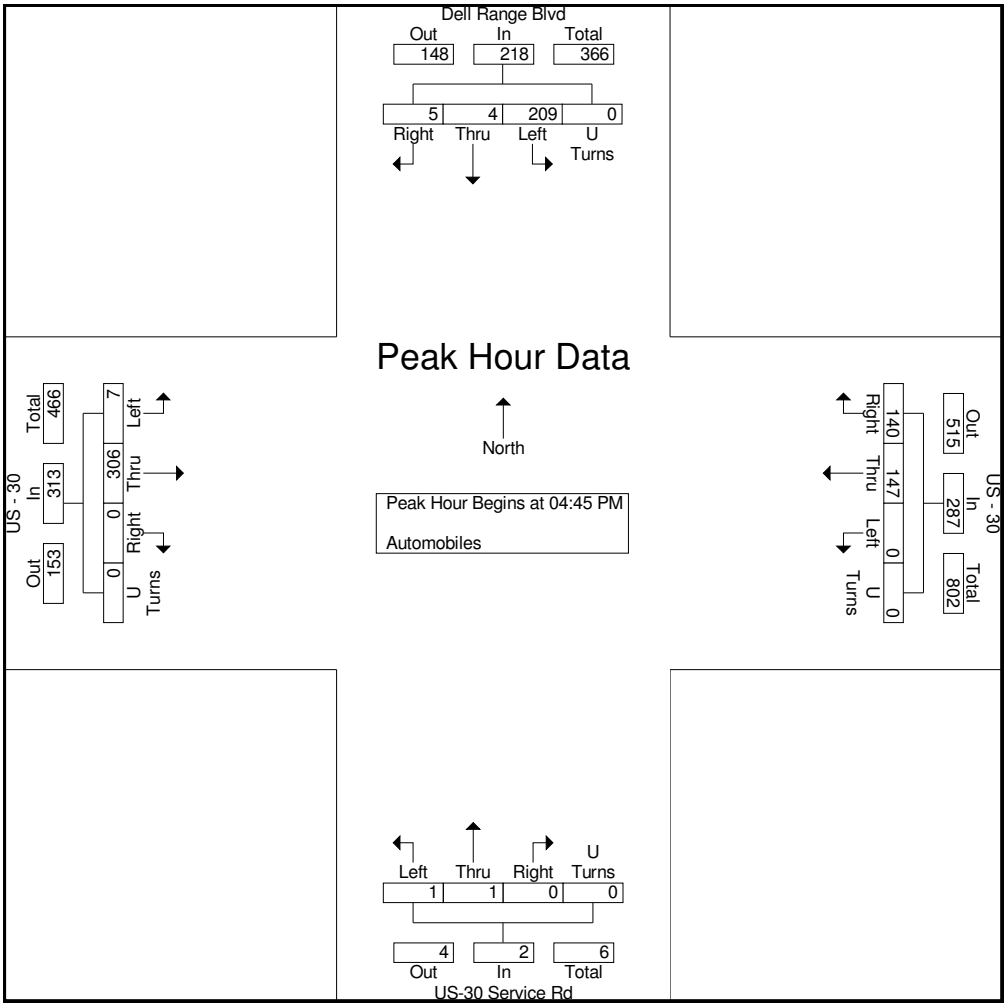
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Dell Range Blvd and US-30

File Name : Dell Range and US-30 PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	US - 30 Eastbound					US - 30 Westbound					US-30 Service Rd Northbound					Dell Range Blvd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	2	59	0	0	61	0	33	25	0	58	0	0	0	0	0	49	2	1	0	52	171
05:00 PM	1	82	0	0	83	0	35	45	0	80	0	1	0	0	1	53	0	1	0	54	218
05:15 PM	3	79	0	0	82	0	35	33	0	68	0	0	0	0	0	46	2	1	0	49	199
05:30 PM	1	86	0	0	87	0	44	37	0	81	1	0	0	0	1	61	0	2	0	63	232
Total Volume	7	306	0	0	313	0	147	140	0	287	1	1	0	0	2	209	4	5	0	218	820
% App. Total	2.2	97.8	0	0		0	51.2	48.8	0		50	50	0	0		95.9	1.8	2.3	0		
PHF	.583	.890	.000	.000	.899	.000	.835	.778	.000	.886	.250	.250	.000	.000	.500	.857	.500	.625	.000	.865	.884



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
US-30 and Van Buren Ave

File Name : US-30 and Van Buren AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

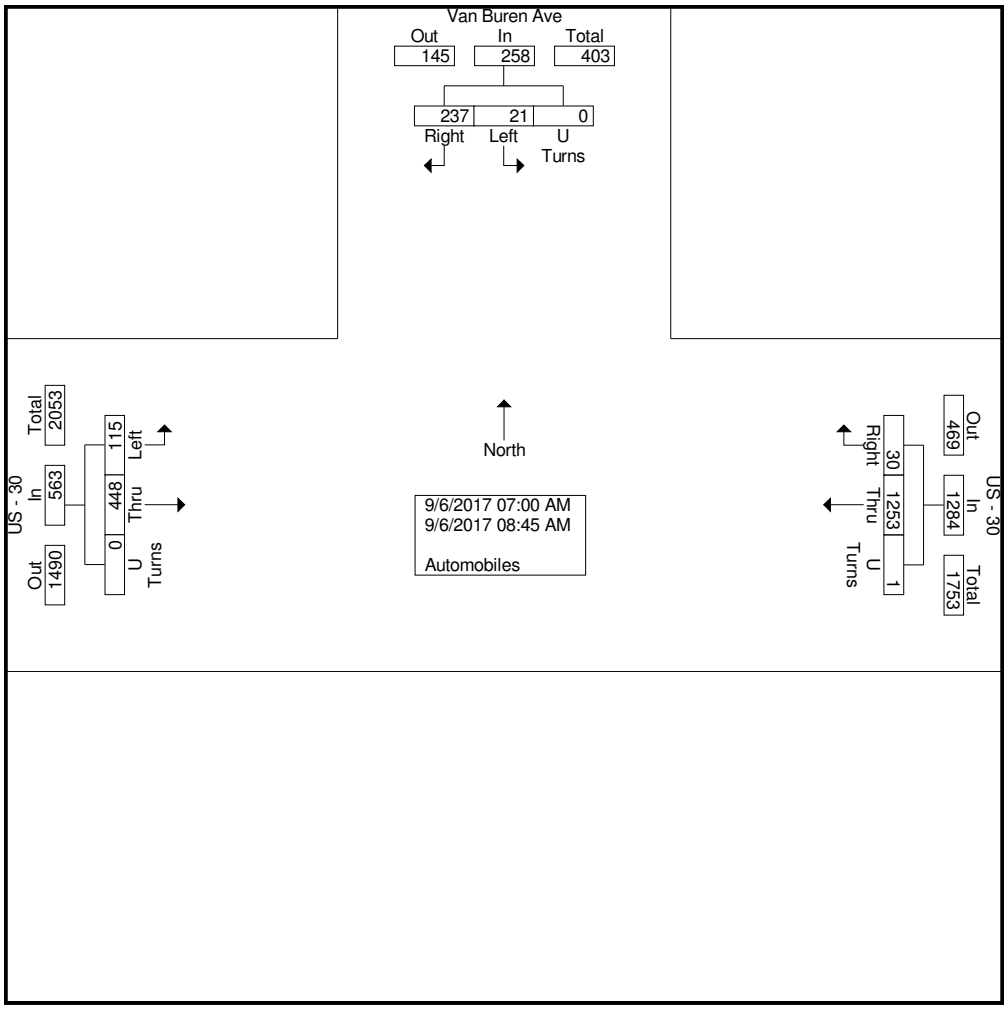
	US - 30 Eastbound				US - 30 Westbound				Van Buren Ave Southbound				
Start Time	Left	Thru	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Right	U Turns	App. Total	Int. Total
07:00 AM	16	45	0	61	203	4	1	208	3	28	0	31	300
07:15 AM	14	52	0	66	240	2	0	242	4	44	0	48	356
07:30 AM	20	60	0	80	230	3	0	233	2	22	0	24	337
07:45 AM	14	71	0	85	186	1	0	187	0	40	0	40	312
Total	64	228	0	292	859	10	1	870	9	134	0	143	1305
08:00 AM	18	70	0	88	113	7	0	120	4	29	0	33	241
08:15 AM	17	58	0	75	106	6	0	112	6	27	0	33	220
08:30 AM	8	40	0	48	95	3	0	98	1	32	0	33	179
08:45 AM	8	52	0	60	80	4	0	84	1	15	0	16	160
Total	51	220	0	271	394	20	0	414	12	103	0	115	800
Grand Total	115	448	0	563	1253	30	1	1284	21	237	0	258	2105
Apprch %	20.4	79.6	0		97.6	2.3	0.1		8.1	91.9	0		
Total %	5.5	21.3	0	26.7	59.5	1.4	0	61	1	11.3	0	12.3	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
US-30 and Van Buren Ave

File Name : US-30 and Van Buren AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



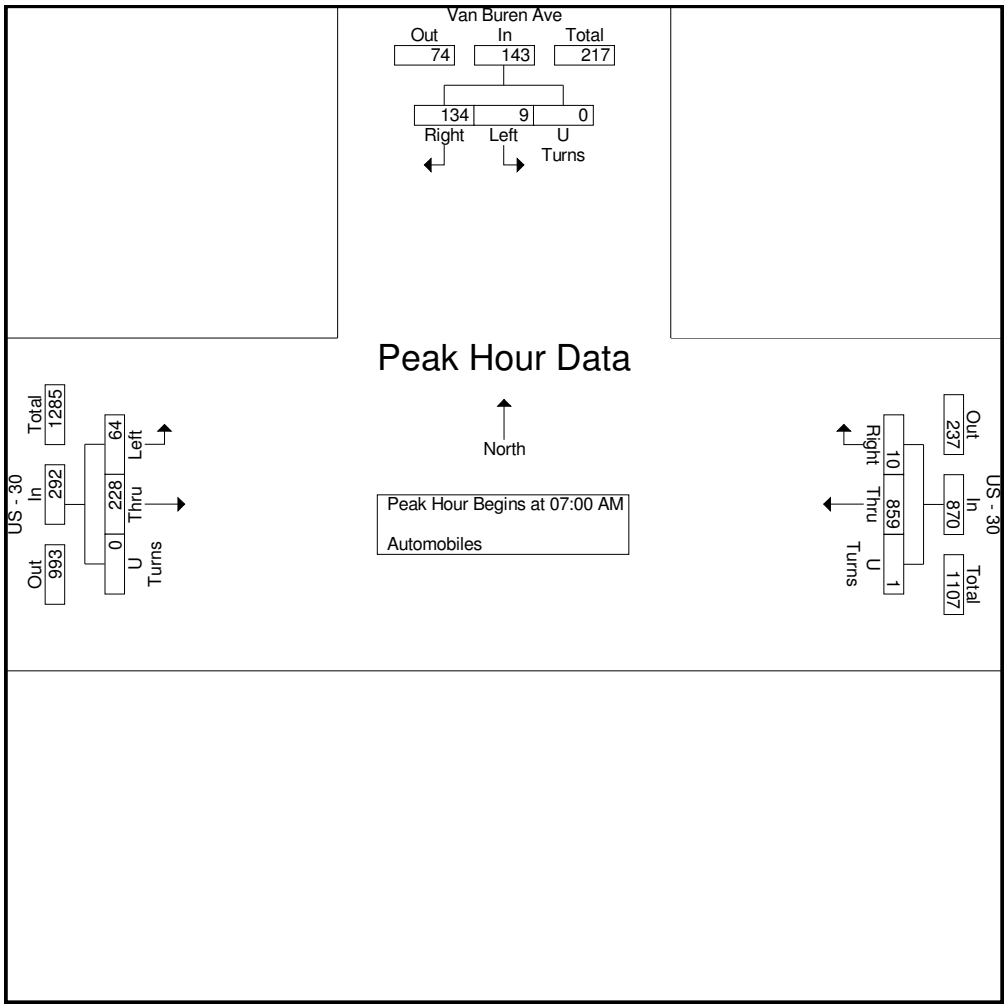
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
US-30 and Van Buren Ave

File Name : US-30 and Van Buren AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	US - 30 Eastbound				US - 30 Westbound				Van Buren Ave Southbound				
Start Time	Left	Thru	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	16	45	0	61	203	4	1	208	3	28	0	31	300
07:15 AM	14	52	0	66	240	2	0	242	4	44	0	48	356
07:30 AM	20	60	0	80	230	3	0	233	2	22	0	24	337
07:45 AM	14	71	0	85	186	1	0	187	0	40	0	40	312
Total Volume	64	228	0	292	859	10	1	870	9	134	0	143	1305
% App. Total	21.9	78.1	0		98.7	1.1	0.1		6.3	93.7	0		
PHF	.800	.803	.000	.859	.895	.625	.250	.899	.563	.761	.000	.745	.916



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
US-30 and Van Buren Ave

File Name : US-30 and Van Buren PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

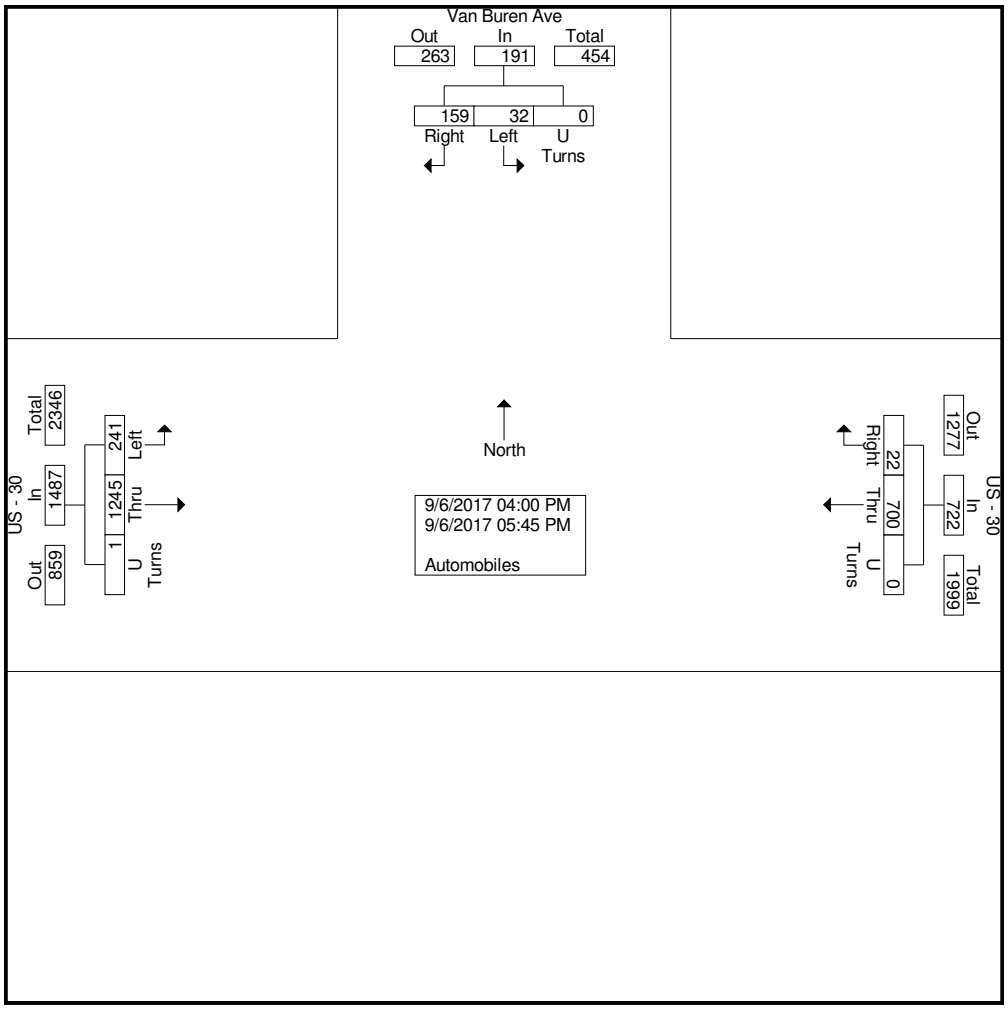
	US - 30 Eastbound				US - 30 Westbound				Van Buren Ave Southbound				
Start Time	Left	Thru	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Right	U Turns	App. Total	Int. Total
04:00 PM	25	132	1	158	67	1	0	68	5	21	0	26	252
04:15 PM	21	141	0	162	82	2	0	84	4	19	0	23	269
04:30 PM	30	125	0	155	94	2	0	96	3	18	0	21	272
04:45 PM	40	146	0	186	86	3	0	89	4	14	0	18	293
Total	116	544	1	661	329	8	0	337	16	72	0	88	1086
05:00 PM	36	186	0	222	95	7	0	102	3	17	0	20	344
05:15 PM	37	211	0	248	99	2	0	101	4	25	0	29	378
05:30 PM	30	173	0	203	73	3	0	76	5	19	0	24	303
05:45 PM	22	131	0	153	104	2	0	106	4	26	0	30	289
Total	125	701	0	826	371	14	0	385	16	87	0	103	1314
Grand Total	241	1245	1	1487	700	22	0	722	32	159	0	191	2400
Apprch %	16.2	83.7	0.1		97	3	0		16.8	83.2	0		
Total %	10	51.9	0	62	29.2	0.9	0	30.1	1.3	6.6	0	8	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
US-30 and Van Buren Ave

File Name : US-30 and Van Buren PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



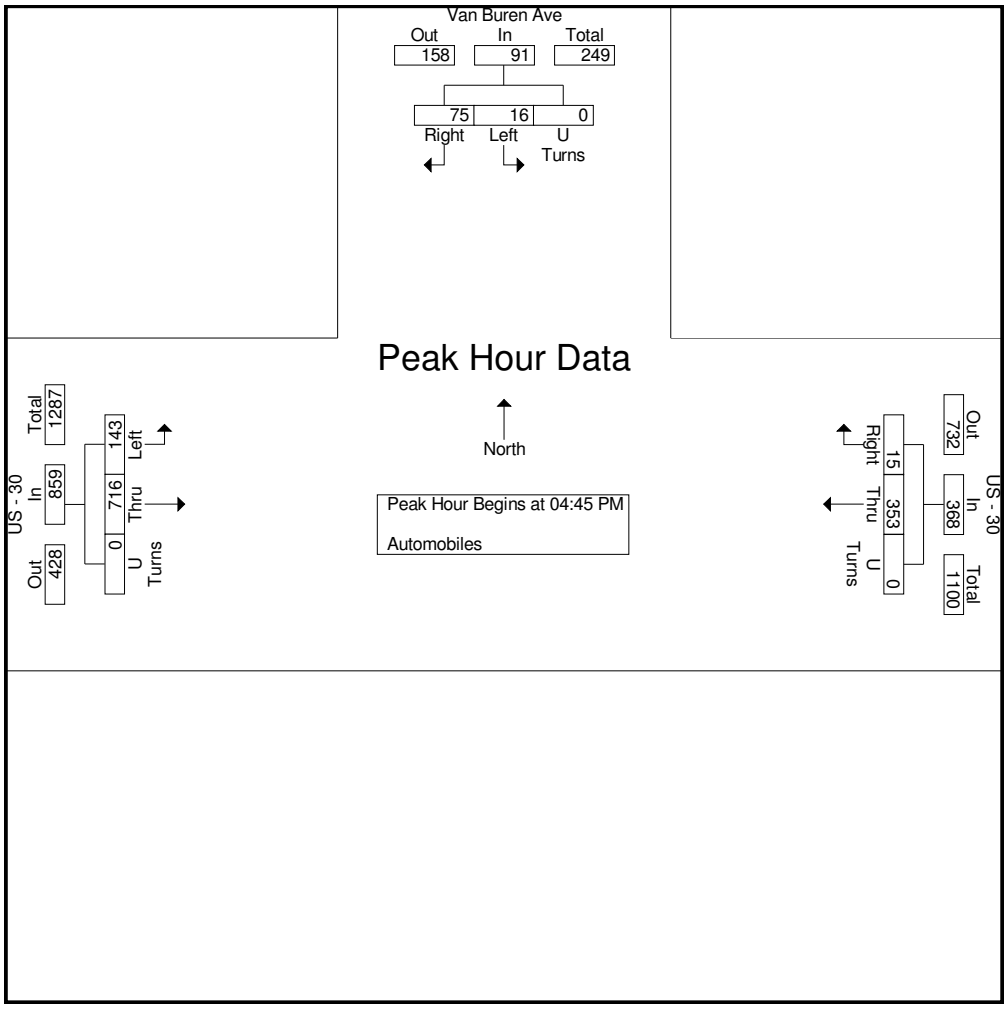
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
US-30 and Van Buren Ave

File Name : US-30 and Van Buren PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	US - 30 Eastbound				US - 30 Westbound				Van Buren Ave Southbound				
Start Time	Left	Thru	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	40	146	0	186	86	3	0	89	4	14	0	18	293
05:00 PM	36	186	0	222	95	7	0	102	3	17	0	20	344
05:15 PM	37	211	0	248	99	2	0	101	4	25	0	29	378
05:30 PM	30	173	0	203	73	3	0	76	5	19	0	24	303
Total Volume	143	716	0	859	353	15	0	368	16	75	0	91	1318
% App. Total	16.6	83.4	0		95.9	4.1	0		17.6	82.4	0		
PHF	.894	.848	.000	.866	.891	.536	.000	.902	.800	.750	.000	.784	.872



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
US-30 and Hayes Ave

File Name : US-30 and Hayes AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

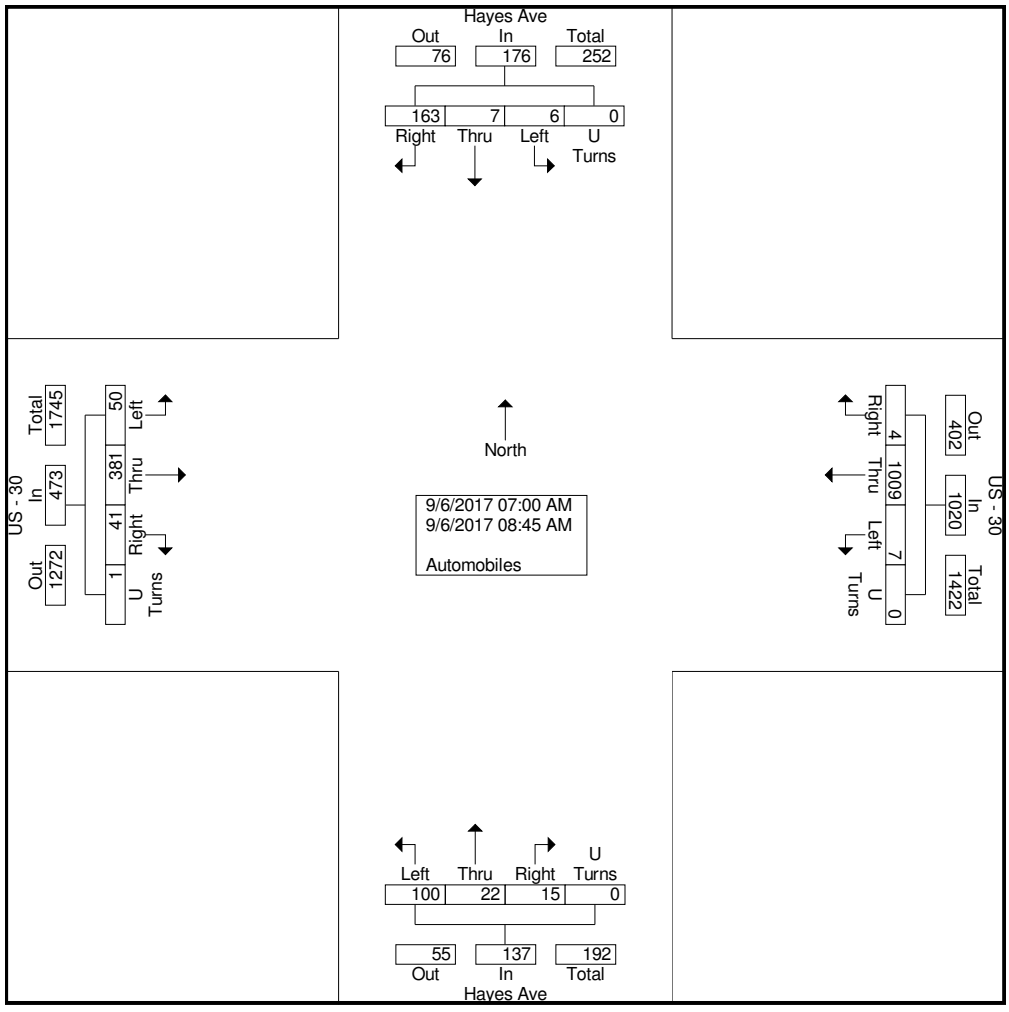
	US - 30 Eastbound					US - 30 Westbound					Hayes Ave Northbound					Hayes Ave Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	6	38	8	0	52	3	168	1	0	172	27	4	0	0	31	1	1	27	0	29	284
07:15 AM	6	47	3	0	56	0	197	0	0	197	19	6	1	0	26	0	1	27	0	28	307
07:30 AM	8	56	4	0	68	0	177	0	0	177	14	1	4	0	19	1	1	32	0	34	298
07:45 AM	3	65	5	0	73	1	143	0	0	144	15	5	2	0	22	0	1	20	0	21	260
Total	23	206	20	0	249	4	685	1	0	690	75	16	7	0	98	2	4	106	0	112	1149
08:00 AM	7	62	5	0	74	0	94	0	0	94	3	1	2	0	6	2	1	16	0	19	193
08:15 AM	4	46	5	0	55	3	97	2	0	102	6	3	5	0	14	1	0	12	0	13	184
08:30 AM	10	32	5	0	47	0	73	0	0	73	7	1	0	0	8	1	1	15	0	17	145
08:45 AM	6	35	6	1	48	0	60	1	0	61	9	1	1	0	11	0	1	14	0	15	135
Total	27	175	21	1	224	3	324	3	0	330	25	6	8	0	39	4	3	57	0	64	657
Grand Total	50	381	41	1	473	7	1009	4	0	1020	100	22	15	0	137	6	7	163	0	176	1806
Apprch %	10.6	80.5	8.7	0.2		0.7	98.9	0.4	0		73	16.1	10.9	0		3.4	4	92.6	0		
Total %	2.8	21.1	2.3	0.1	26.2	0.4	55.9	0.2	0	56.5	5.5	1.2	0.8	0	7.6	0.3	0.4	9	0	9.7	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
US-30 and Hayes Ave

File Name : US-30 and Hayes AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



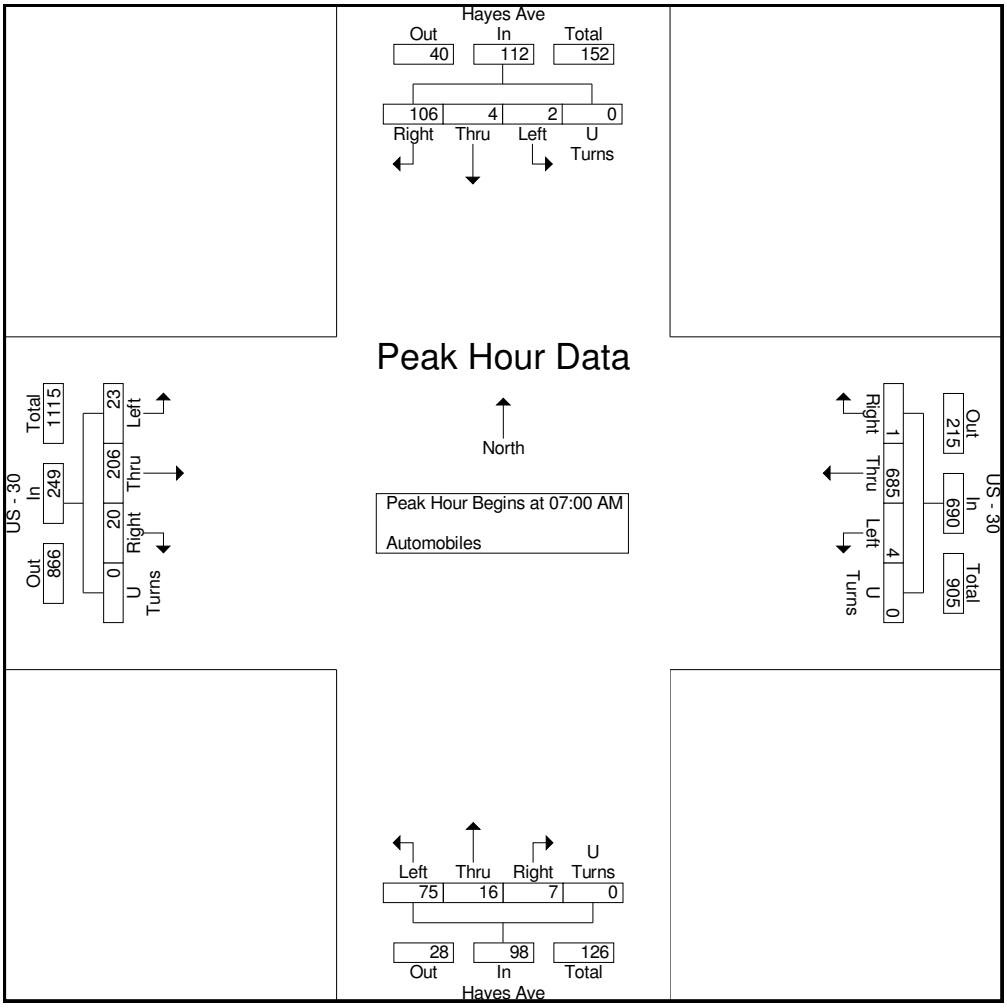
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
US-30 and Hayes Ave

File Name : US-30 and Hayes AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	US - 30 Eastbound					US - 30 Westbound					Hayes Ave Northbound					Hayes Ave Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	6	38	8	0	52	3	168	1	0	172	27	4	0	0	31	1	1	27	0	29	284
07:15 AM	6	47	3	0	56	0	197	0	0	197	19	6	1	0	26	0	1	27	0	28	307
07:30 AM	8	56	4	0	68	0	177	0	0	177	14	1	4	0	19	1	1	32	0	34	298
07:45 AM	3	65	5	0	73	1	143	0	0	144	15	5	2	0	22	0	1	20	0	21	260
Total Volume	23	206	20	0	249	4	685	1	0	690	75	16	7	0	98	2	4	106	0	112	1149
% App. Total	9.2	82.7	8	0		0.6	99.3	0.1	0		76.5	16.3	7.1	0		1.8	3.6	94.6	0		
PHF	.719	.792	.625	.000	.853	.333	.869	.250	.000	.876	.694	.667	.438	.000	.790	.500	1.00	.828	.000	.824	.936



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
US-30 and Hayes Ave

File Name : US-30 and Hayes PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

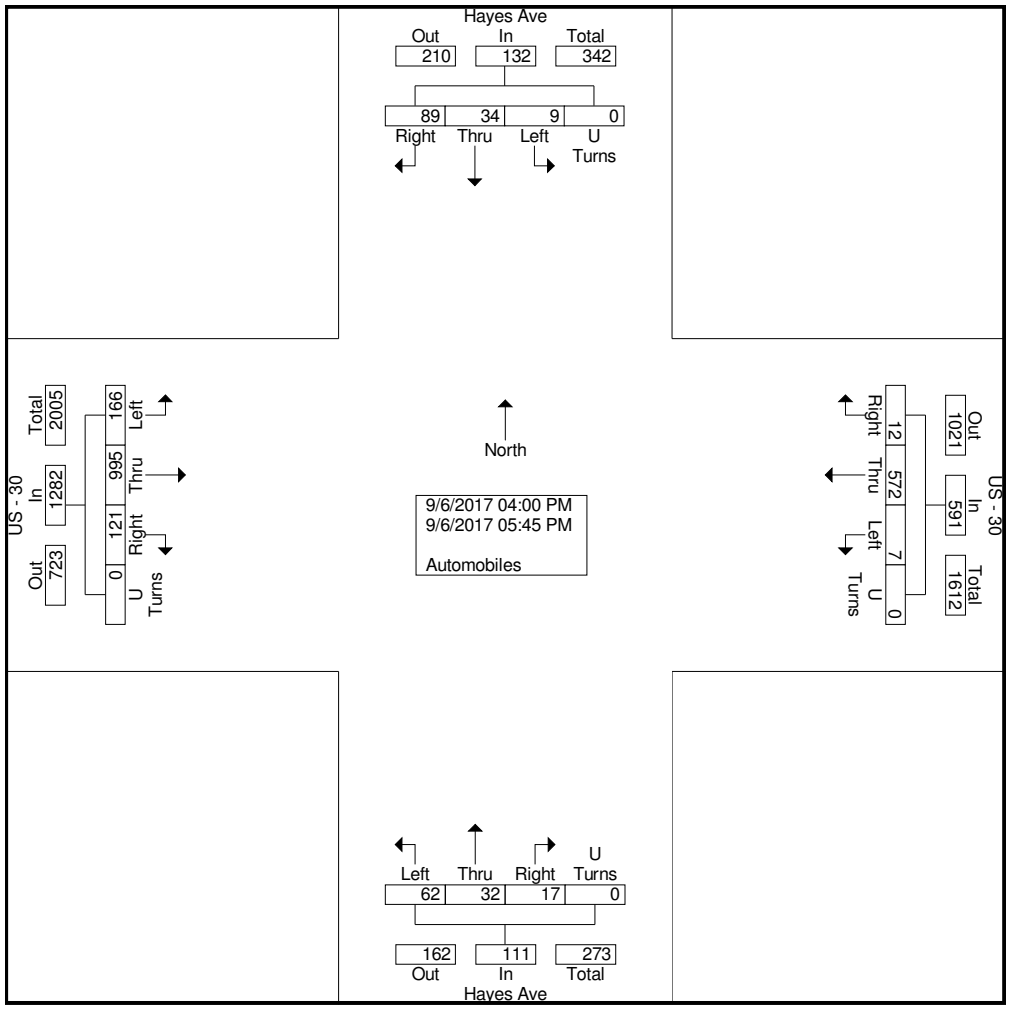
	US - 30 Eastbound					US - 30 Westbound					Hayes Ave Northbound					Hayes Ave Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	21	111	10	0	142	0	57	2	0	59	3	2	2	0	7	0	5	5	0	10	218
04:15 PM	24	113	6	0	143	0	78	2	0	80	4	4	0	0	8	1	4	10	0	15	246
04:30 PM	17	96	12	0	125	1	82	2	0	85	4	8	1	0	13	0	3	10	0	13	236
04:45 PM	18	122	19	0	159	1	69	1	0	71	11	2	3	0	16	0	5	15	0	20	266
Total	80	442	47	0	569	2	286	7	0	295	22	16	6	0	44	1	17	40	0	58	966
05:00 PM	25	142	17	0	184	1	79	2	0	82	9	1	1	0	11	1	3	12	0	16	293
05:15 PM	32	163	26	0	221	0	65	1	0	66	15	4	2	0	21	4	5	14	0	23	331
05:30 PM	16	139	20	0	175	4	65	2	0	71	6	10	1	0	17	1	7	9	0	17	280
05:45 PM	13	109	11	0	133	0	77	0	0	77	10	1	7	0	18	2	2	14	0	18	246
Total	86	553	74	0	713	5	286	5	0	296	40	16	11	0	67	8	17	49	0	74	1150
Grand Total	166	995	121	0	1282	7	572	12	0	591	62	32	17	0	111	9	34	89	0	132	2116
Apprch %	12.9	77.6	9.4	0		1.2	96.8	2	0		55.9	28.8	15.3	0		6.8	25.8	67.4	0		
Total %	7.8	47	5.7	0	60.6	0.3	27	0.6	0	27.9	2.9	1.5	0.8	0	5.2	0.4	1.6	4.2	0	6.2	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
US-30 and Hayes Ave

File Name : US-30 and Hayes PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



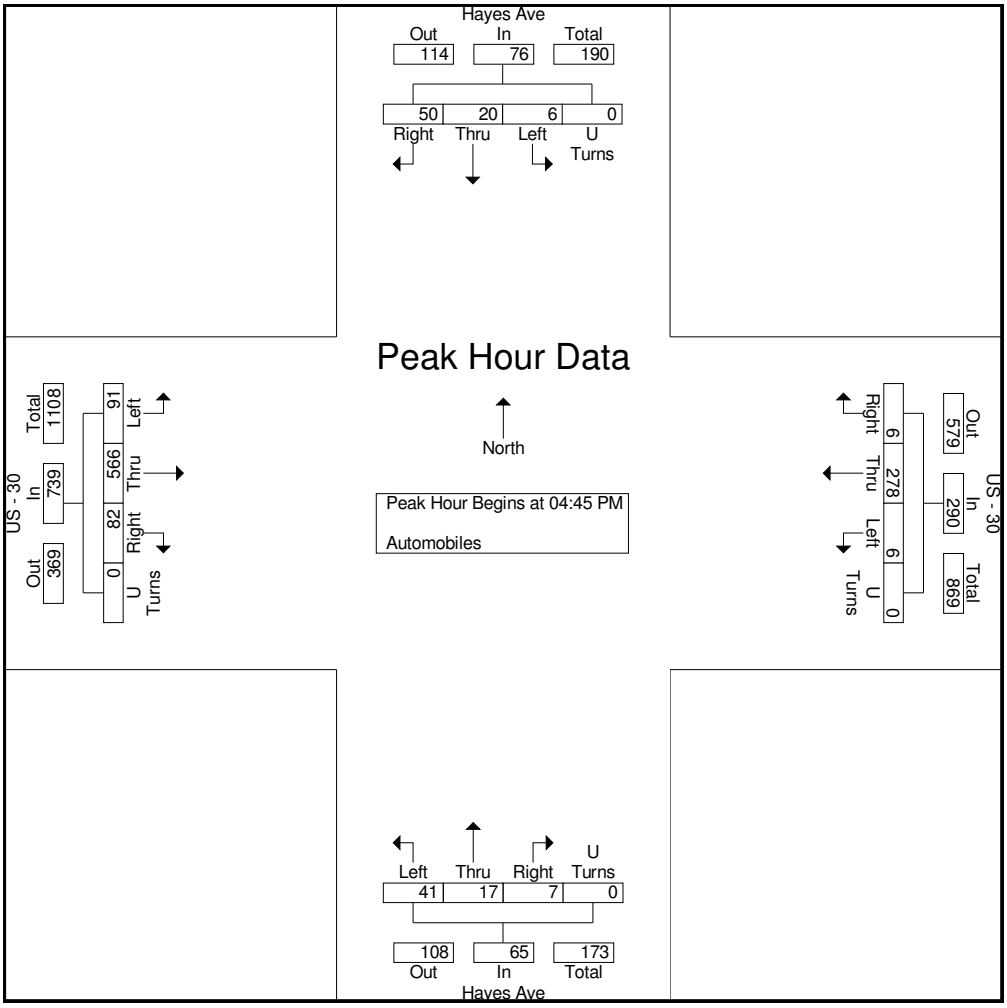
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
US-30 and Hayes Ave

File Name : US-30 and Hayes PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	US - 30 Eastbound					US - 30 Westbound					Hayes Ave Northbound					Hayes Ave Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	18	122	19	0	159	1	69	1	0	71	11	2	3	0	16	0	5	15	0	20	266
05:00 PM	25	142	17	0	184	1	79	2	0	82	9	1	1	0	11	1	3	12	0	16	293
05:15 PM	32	163	26	0	221	0	65	1	0	66	15	4	2	0	21	4	5	14	0	23	331
05:30 PM	16	139	20	0	175	4	65	2	0	71	6	10	1	0	17	1	7	9	0	17	280
Total Volume	91	566	82	0	739	6	278	6	0	290	41	17	7	0	65	6	20	50	0	76	1170
% App. Total	12.3	76.6	11.1	0		2.1	95.9	2.1	0		63.1	26.2	10.8	0		7.9	26.3	65.8	0		
PHF	.711	.868	.788	.000	.836	.375	.880	.750	.000	.884	.683	.425	.583	.000	.774	.375	.714	.833	.000	.826	.884



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
US-30 and Whitney Rd

File Name : US-30 and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

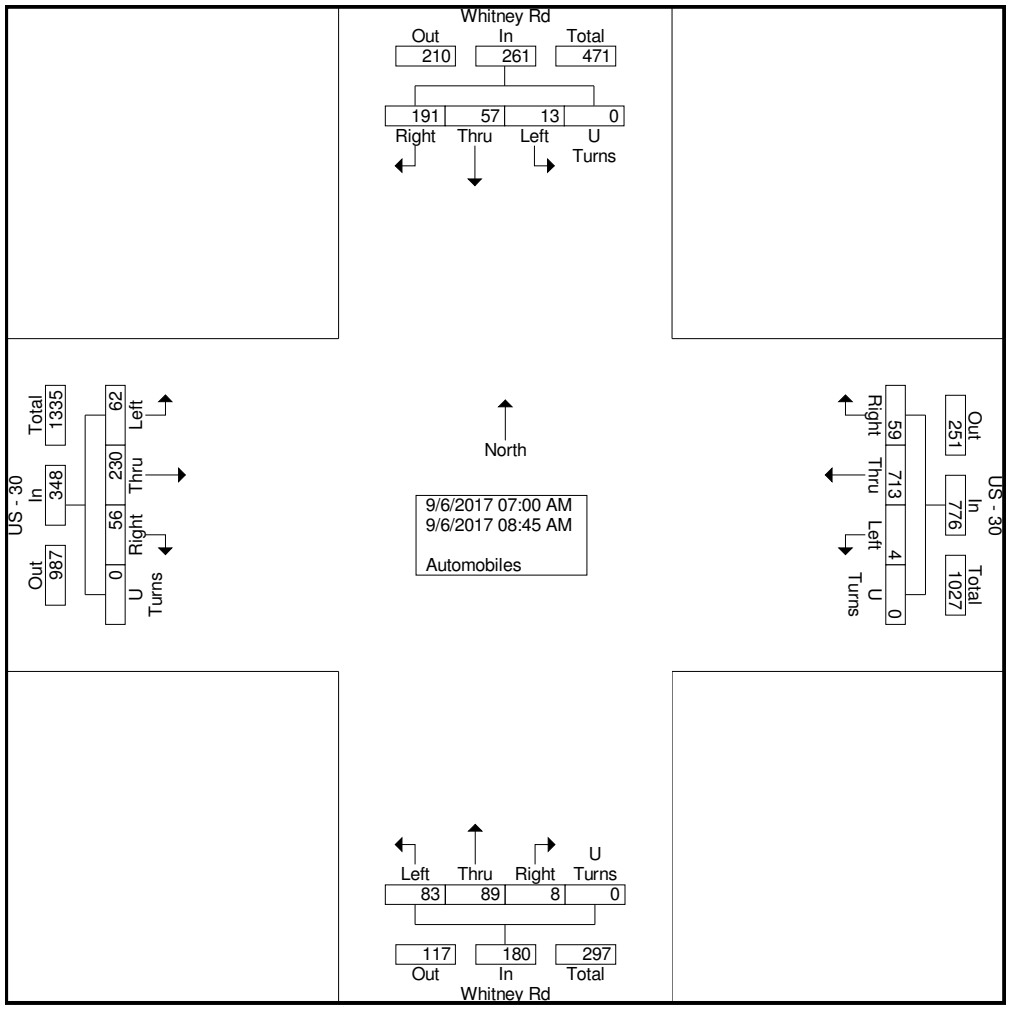
	US - 30 Eastbound					US - 30 Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	8	20	6	0	34	0	122	7	0	129	14	12	1	0	27	1	6	25	0	32	222
07:15 AM	5	31	4	0	40	1	148	5	0	154	7	6	1	0	14	0	6	44	0	50	258
07:30 AM	10	24	5	0	39	0	121	7	0	128	10	13	0	0	23	1	5	39	0	45	235
07:45 AM	9	44	16	0	69	2	111	14	0	127	15	18	1	0	34	2	12	23	0	37	267
Total	32	119	31	0	182	3	502	33	0	538	46	49	3	0	98	4	29	131	0	164	982
08:00 AM	7	34	8	0	49	0	55	8	0	63	9	14	3	0	26	2	10	14	0	26	164
08:15 AM	9	41	11	0	61	0	65	7	0	72	10	8	2	0	20	5	7	13	0	25	178
08:30 AM	9	16	1	0	26	1	49	6	0	56	9	10	0	0	19	1	7	21	0	29	130
08:45 AM	5	20	5	0	30	0	42	5	0	47	9	8	0	0	17	1	4	12	0	17	111
Total	30	111	25	0	166	1	211	26	0	238	37	40	5	0	82	9	28	60	0	97	583
Grand Total	62	230	56	0	348	4	713	59	0	776	83	89	8	0	180	13	57	191	0	261	1565
Apprch %	17.8	66.1	16.1	0		0.5	91.9	7.6	0		46.1	49.4	4.4	0		5	21.8	73.2	0		
Total %	4	14.7	3.6	0	22.2	0.3	45.6	3.8	0	49.6	5.3	5.7	0.5	0	11.5	0.8	3.6	12.2	0	16.7	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
US-30 and Whitney Rd

File Name : US-30 and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



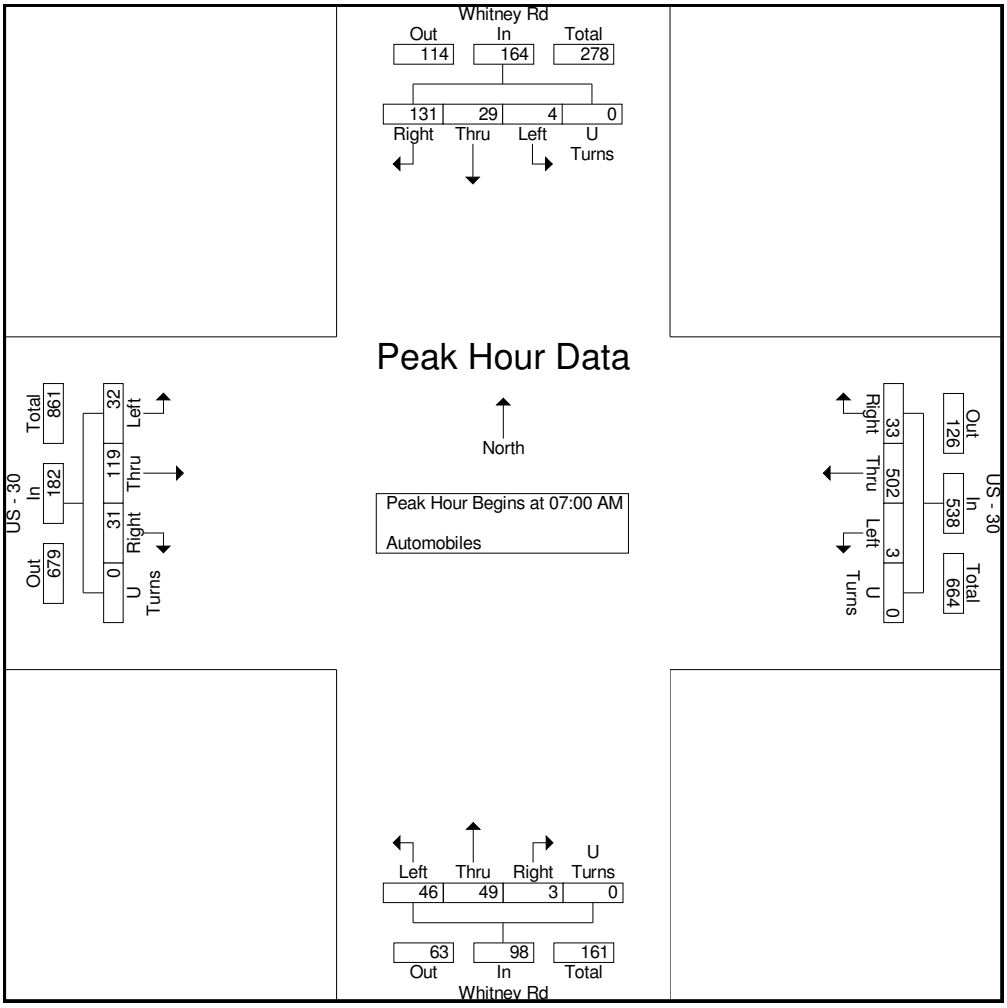
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
US-30 and Whitney Rd

File Name : US-30 and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	US - 30 Eastbound					US - 30 Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	8	20	6	0	34	0	122	7	0	129	14	12	1	0	27	1	6	25	0	32	222
07:15 AM	5	31	4	0	40	1	148	5	0	154	7	6	1	0	14	0	6	44	0	50	258
07:30 AM	10	24	5	0	39	0	121	7	0	128	10	13	0	0	23	1	5	39	0	45	235
07:45 AM	9	44	16	0	69	2	111	14	0	127	15	18	1	0	34	2	12	23	0	37	267
Total Volume	32	119	31	0	182	3	502	33	0	538	46	49	3	0	98	4	29	131	0	164	982
% App. Total	17.6	65.4	17	0		0.6	93.3	6.1	0		46.9	50	3.1	0		2.4	17.7	79.9	0		
PHF	.800	.676	.484	.000	.659	.375	.848	.589	.000	.873	.767	.681	.750	.000	.721	.500	.604	.744	.000	.820	.919



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
US-30 and Whitney Rd

File Name : US-30 and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

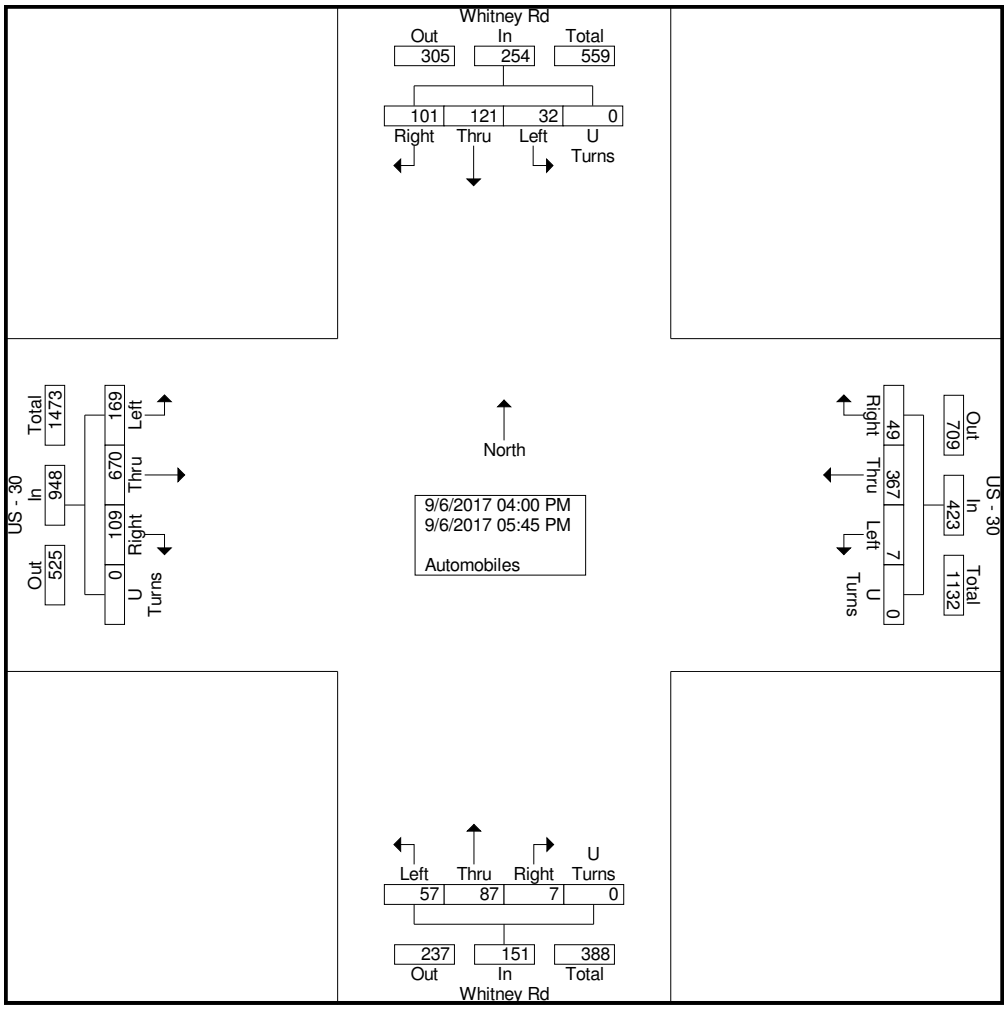
	US - 30 Eastbound					US - 30 Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	15	71	10	0	96	2	39	5	0	46	8	7	0	0	15	3	12	11	0	26	183
04:15 PM	24	68	12	0	104	0	50	3	0	53	6	6	1	0	13	3	11	8	0	22	192
04:30 PM	21	67	8	0	96	1	60	6	0	67	5	5	0	0	10	5	16	10	0	31	204
04:45 PM	23	72	12	0	107	0	40	5	0	45	7	11	0	0	18	4	11	19	0	34	204
Total	83	278	42	0	403	3	189	19	0	211	26	29	1	0	56	15	50	48	0	113	783
05:00 PM	21	106	14	0	141	0	46	11	0	57	5	15	2	0	22	3	24	18	0	45	265
05:15 PM	32	103	18	0	153	3	42	9	0	54	8	13	3	0	24	3	16	15	0	34	265
05:30 PM	18	105	18	0	141	1	44	3	0	48	10	18	0	0	28	7	17	6	0	30	247
05:45 PM	15	78	17	0	110	0	46	7	0	53	8	12	1	0	21	4	14	14	0	32	216
Total	86	392	67	0	545	4	178	30	0	212	31	58	6	0	95	17	71	53	0	141	993
Grand Total	169	670	109	0	948	7	367	49	0	423	57	87	7	0	151	32	121	101	0	254	1776
Apprch %	17.8	70.7	11.5	0		1.7	86.8	11.6	0		37.7	57.6	4.6	0		12.6	47.6	39.8	0		
Total %	9.5	37.7	6.1	0	53.4	0.4	20.7	2.8	0	23.8	3.2	4.9	0.4	0	8.5	1.8	6.8	5.7	0	14.3	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
US-30 and Whitney Rd

File Name : US-30 and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



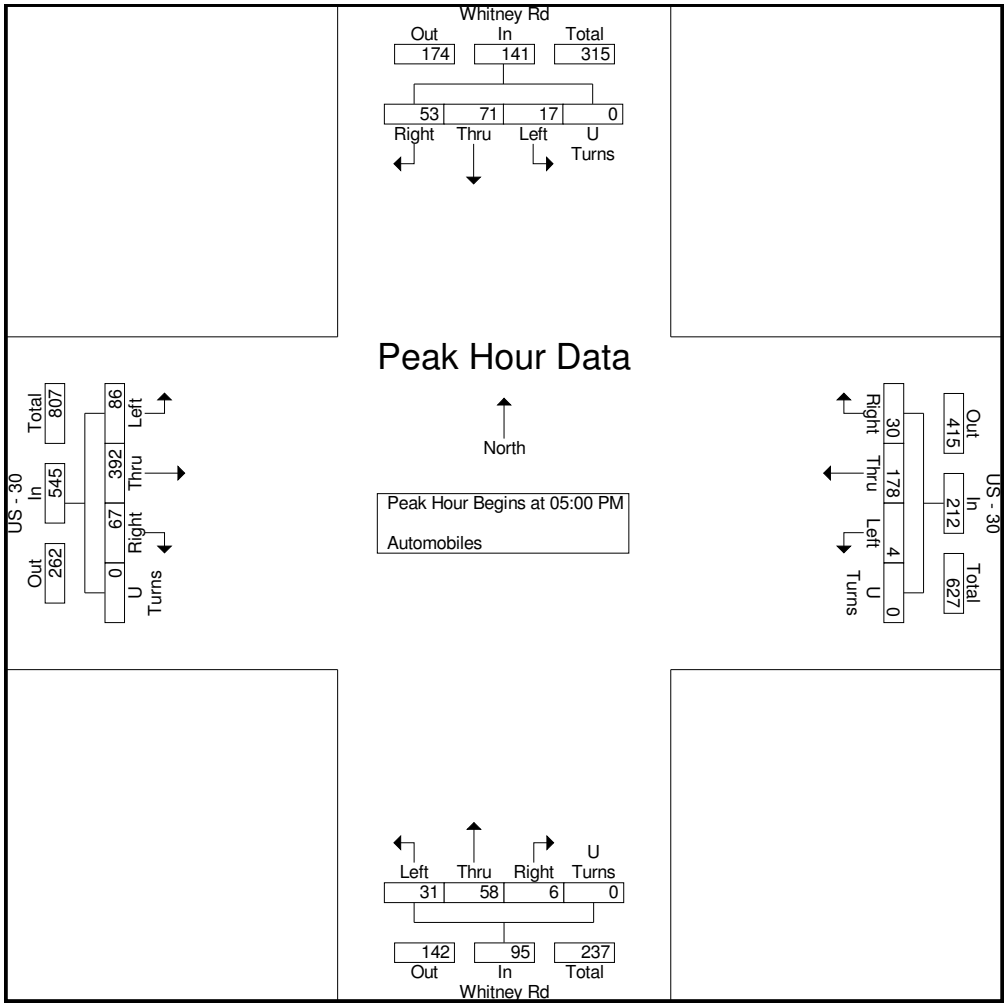
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
US-30 and Whitney Rd

File Name : US-30 and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	US - 30 Eastbound					US - 30 Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	21	106	14	0	141	0	46	11	0	57	5	15	2	0	22	3	24	18	0	45	265
05:15 PM	32	103	18	0	153	3	42	9	0	54	8	13	3	0	24	3	16	15	0	34	265
05:30 PM	18	105	18	0	141	1	44	3	0	48	10	18	0	0	28	7	17	6	0	30	247
05:45 PM	15	78	17	0	110	0	46	7	0	53	8	12	1	0	21	4	14	14	0	32	216
Total Volume	86	392	67	0	545	4	178	30	0	212	31	58	6	0	95	17	71	53	0	141	993
% App. Total	15.8	71.9	12.3	0		1.9	84	14.2	0		32.6	61.1	6.3	0		12.1	50.4	37.6	0		
PHF	.672	.925	.931	.000	.891	.333	.967	.682	.000	.930	.775	.806	.500	.000	.848	.607	.740	.736	.000	.783	.937



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Storey Blvd/Summit Dr and Ridge Rd

File Name : Storey Summit and Ridge AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

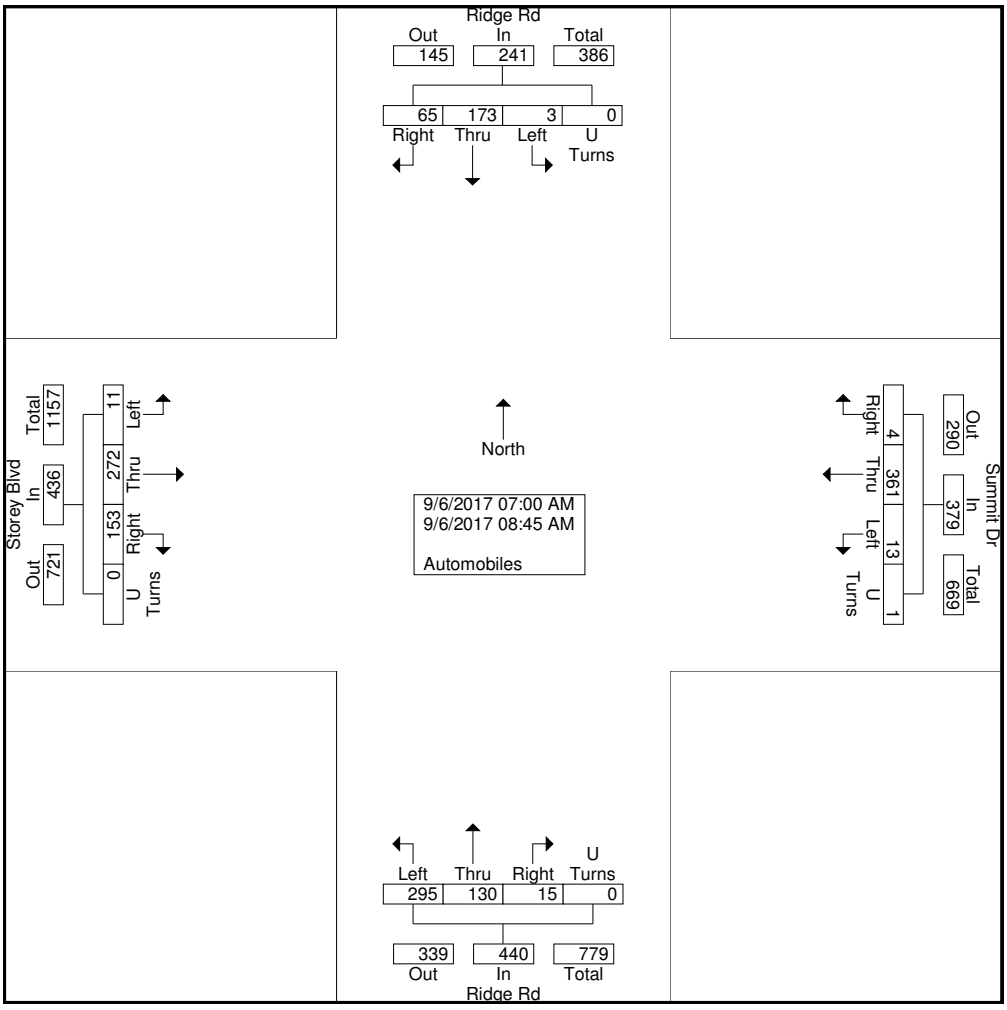
	Storey Blvd Eastbound					Summit Dr Westbound					Ridge Rd Northbound					Ridge Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	1	24	8	0	33	1	43	0	0	44	26	12	4	0	42	0	23	7	0	30	149
07:15 AM	0	24	10	0	34	2	41	1	0	44	18	14	0	0	32	2	28	8	0	38	148
07:30 AM	2	34	18	0	54	4	59	1	0	64	35	14	4	0	53	1	23	5	0	29	200
07:45 AM	0	35	26	0	61	0	66	1	0	67	59	21	3	0	83	0	23	9	0	32	243
Total	3	117	62	0	182	7	209	3	0	219	138	61	11	0	210	3	97	29	0	129	740
08:00 AM	1	52	21	0	74	2	52	1	0	55	67	16	1	0	84	0	23	14	0	37	250
08:15 AM	2	44	31	0	77	2	45	0	0	47	41	16	1	0	58	0	16	13	0	29	211
08:30 AM	4	36	25	0	65	2	29	0	0	31	22	15	2	0	39	0	20	5	0	25	160
08:45 AM	1	23	14	0	38	0	26	0	1	27	27	22	0	0	49	0	17	4	0	21	135
Total	8	155	91	0	254	6	152	1	1	160	157	69	4	0	230	0	76	36	0	112	756
Grand Total	11	272	153	0	436	13	361	4	1	379	295	130	15	0	440	3	173	65	0	241	1496
Apprch %	2.5	62.4	35.1	0		3.4	95.3	1.1	0.3		67	29.5	3.4	0		1.2	71.8	27	0		
Total %	0.7	18.2	10.2	0	29.1	0.9	24.1	0.3	0.1	25.3	19.7	8.7	1	0	29.4	0.2	11.6	4.3	0	16.1	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Storey Blvd/Summit Dr and Ridge Rd

File Name : Storey Summit and Ridge AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



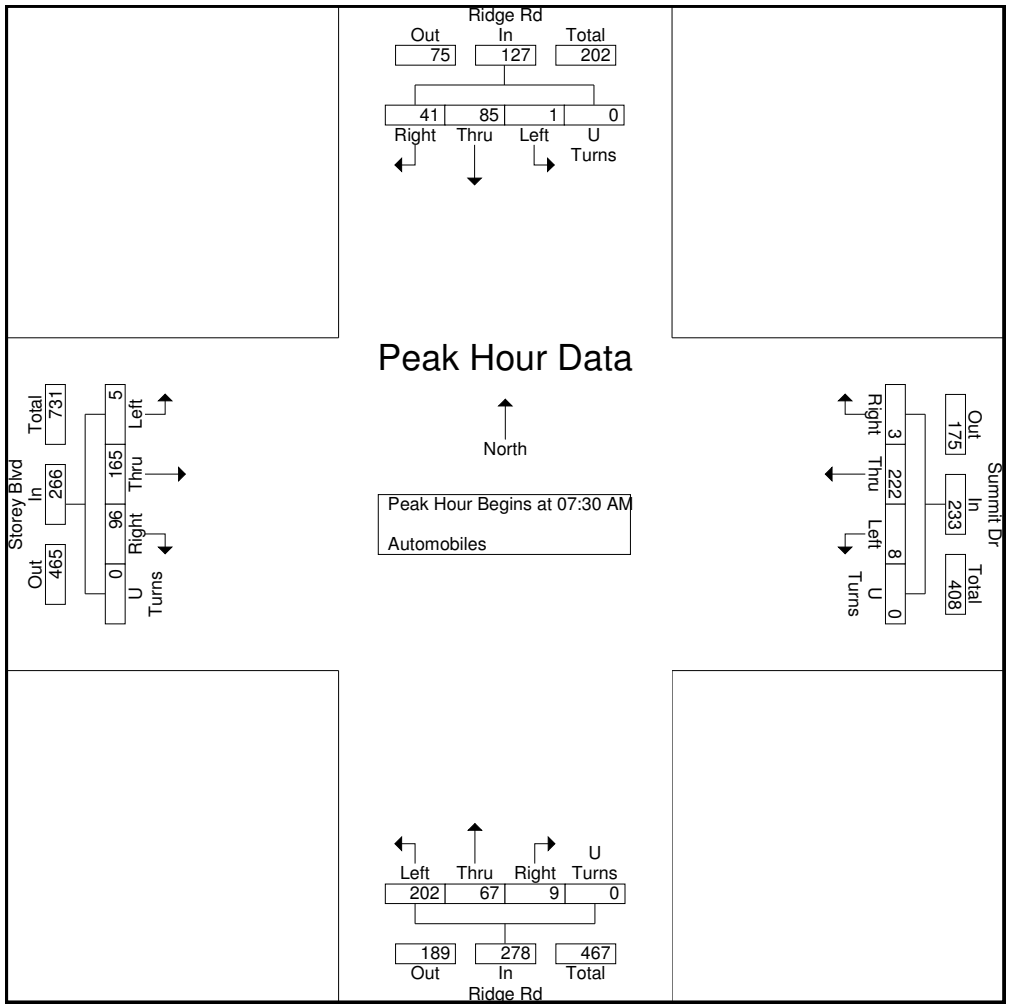
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Storey Blvd/Summit Dr and Ridge Rd

File Name : Storey Summit and Ridge AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Storey Blvd Eastbound					Summit Dr Westbound					Ridge Rd Northbound					Ridge Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	2	34	18	0	54	4	59	1	0	64	35	14	4	0	53	1	23	5	0	29	200
07:45 AM	0	35	26	0	61	0	66	1	0	67	59	21	3	0	83	0	23	9	0	32	243
08:00 AM	1	52	21	0	74	2	52	1	0	55	67	16	1	0	84	0	23	14	0	37	250
08:15 AM	2	44	31	0	77	2	45	0	0	47	41	16	1	0	58	0	16	13	0	29	211
Total Volume	5	165	96	0	266	8	222	3	0	233	202	67	9	0	278	1	85	41	0	127	904
% App. Total	1.9	62	36.1	0		3.4	95.3	1.3	0		72.7	24.1	3.2	0		0.8	66.9	32.3	0		
PHF	.625	.793	.774	.000	.864	.500	.841	.750	.000	.869	.754	.798	.563	.000	.827	.250	.924	.732	.000	.858	.904



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Storey Blvd/Summit Dr and Ridge Rd

File Name : Storey Summit and Ridge PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

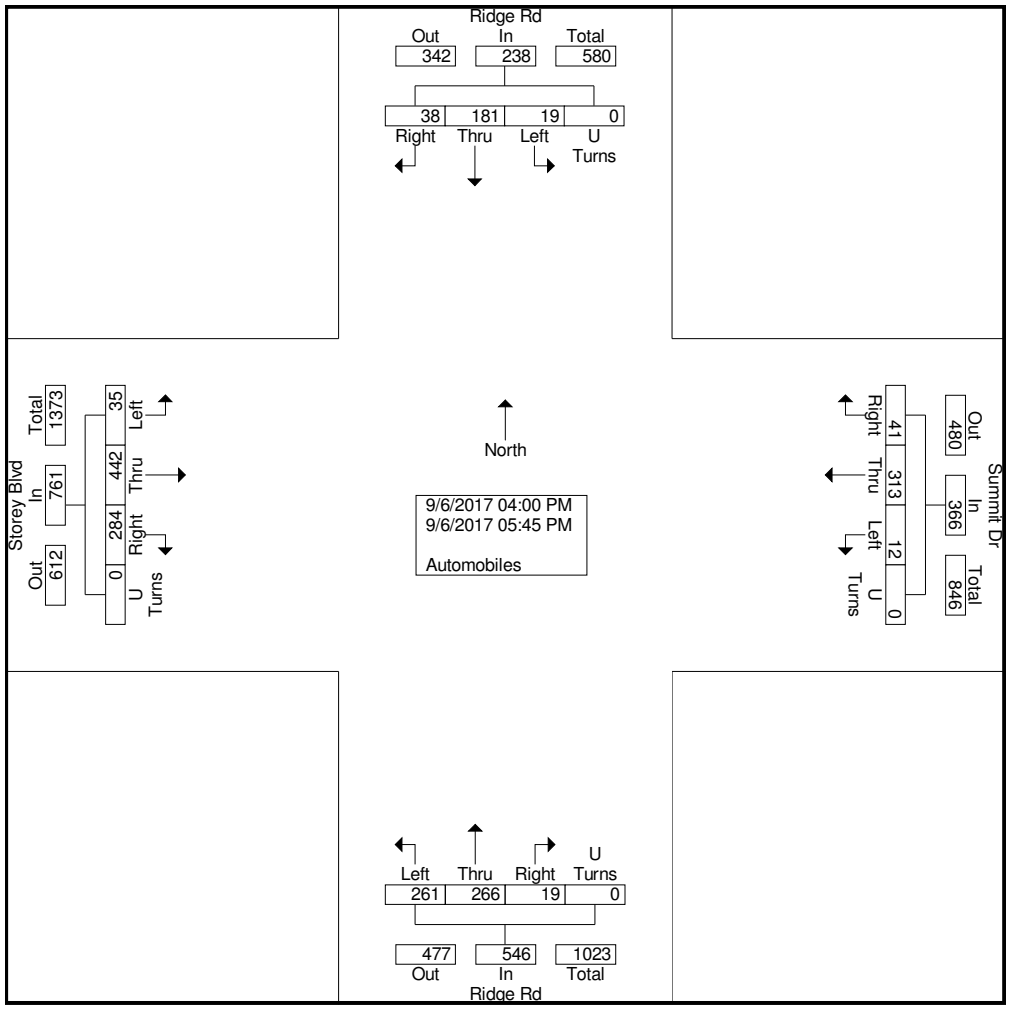
	Storey Blvd Eastbound					Summit Dr Westbound					Ridge Rd Northbound					Ridge Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	3	46	34	0	83	1	27	2	0	30	29	25	0	0	54	2	14	3	0	19	186
04:15 PM	1	58	35	0	94	5	40	2	0	47	24	26	3	0	53	2	7	4	0	13	207
04:30 PM	5	54	45	0	104	2	46	2	0	50	33	28	2	0	63	1	14	5	0	20	237
04:45 PM	2	59	29	0	90	0	49	5	0	54	27	32	4	0	63	1	21	3	0	25	232
Total	11	217	143	0	371	8	162	11	0	181	113	111	9	0	233	6	56	15	0	77	862
05:00 PM	7	69	32	0	108	3	42	5	0	50	33	29	3	0	65	2	37	4	0	43	266
05:15 PM	6	69	49	0	124	0	38	9	0	47	43	55	2	0	100	3	27	6	0	36	307
05:30 PM	6	58	33	0	97	1	30	10	0	41	42	43	1	0	86	5	32	8	0	45	269
05:45 PM	5	29	27	0	61	0	41	6	0	47	30	28	4	0	62	3	29	5	0	37	207
Total	24	225	141	0	390	4	151	30	0	185	148	155	10	0	313	13	125	23	0	161	1049
Grand Total	35	442	284	0	761	12	313	41	0	366	261	266	19	0	546	19	181	38	0	238	1911
Apprch %	4.6	58.1	37.3	0		3.3	85.5	11.2	0		47.8	48.7	3.5	0		8	76.1	16	0		
Total %	1.8	23.1	14.9	0	39.8	0.6	16.4	2.1	0	19.2	13.7	13.9	1	0	28.6	1	9.5	2	0	12.5	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Storey Blvd/Summit Dr and Ridge Rd

File Name : Storey Summit and Ridge PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



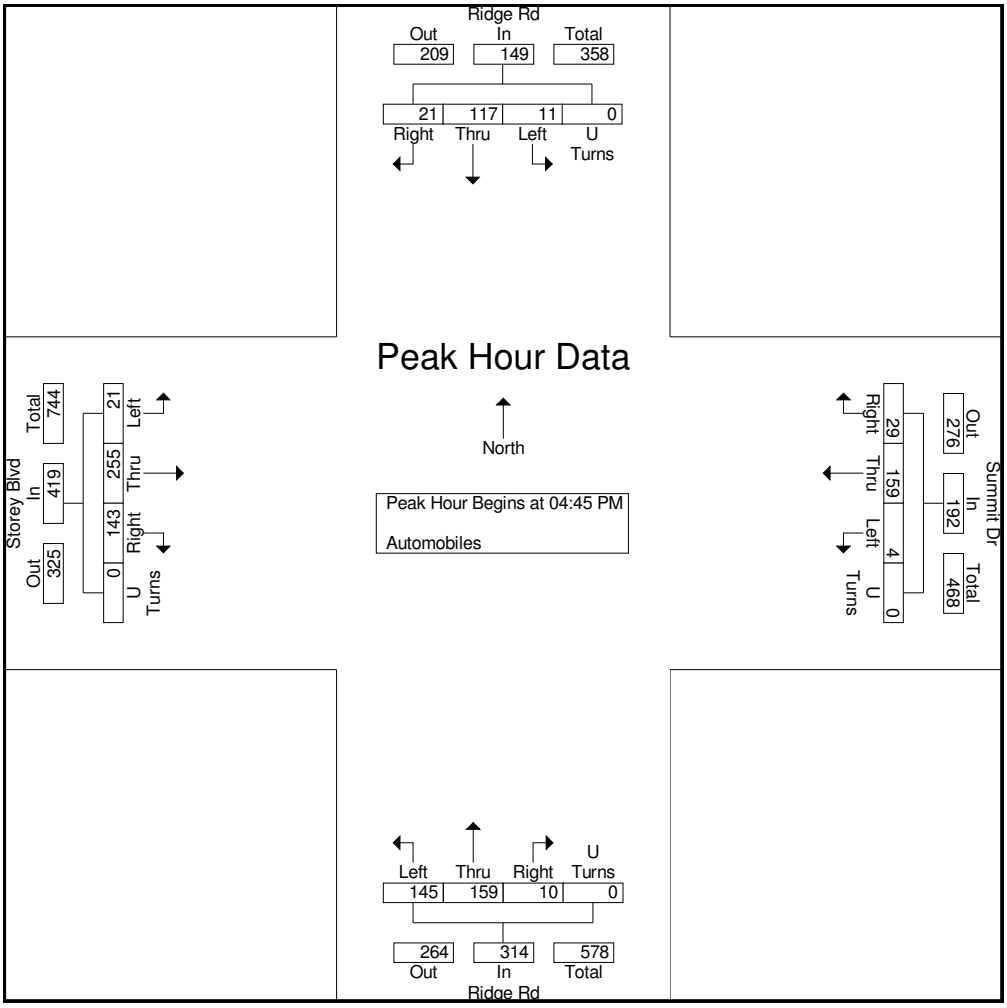
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Storey Blvd/Summit Dr and Ridge Rd

File Name : Storey Summit and Ridge PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Storey Blvd Eastbound					Summit Dr Westbound					Ridge Rd Northbound					Ridge Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	2	59	29	0	90	0	49	5	0	54	27	32	4	0	63	1	21	3	0	25	232
05:00 PM	7	69	32	0	108	3	42	5	0	50	33	29	3	0	65	2	37	4	0	43	266
05:15 PM	6	69	49	0	124	0	38	9	0	47	43	55	2	0	100	3	27	6	0	36	307
05:30 PM	6	58	33	0	97	1	30	10	0	41	42	43	1	0	86	5	32	8	0	45	269
Total Volume	21	255	143	0	419	4	159	29	0	192	145	159	10	0	314	11	117	21	0	149	1074
% App. Total	5	60.9	34.1	0		2.1	82.8	15.1	0		46.2	50.6	3.2	0		7.4	78.5	14.1	0		
PHF	.750	.924	.730	.000	.845	.333	.811	.725	.000	.889	.843	.723	.625	.000	.785	.550	.791	.656	.000	.828	.875



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Summit Dr and College Dr

File Name : Summit and College AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

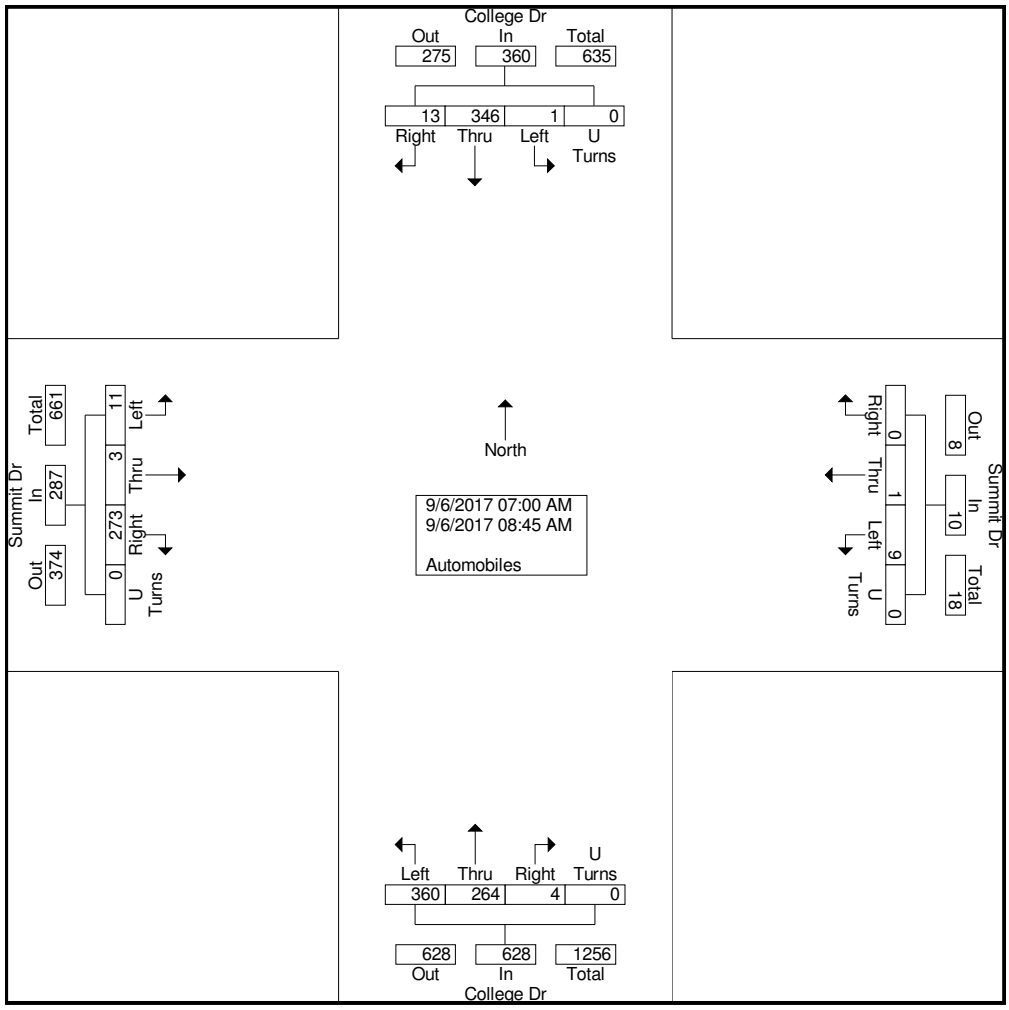
	Summit Dr Eastbound					Summit Dr Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	2	0	23	0	25	0	0	0	0	0	46	36	1	0	83	0	46	1	0	47	155
07:15 AM	2	1	27	0	30	1	0	0	0	1	40	35	0	0	75	1	48	1	0	50	156
07:30 AM	1	0	36	0	37	2	0	0	0	2	64	32	0	0	96	0	54	1	0	55	190
07:45 AM	0	1	37	0	38	3	1	0	0	4	64	40	0	0	104	0	47	4	0	51	197
Total	5	2	123	0	130	6	1	0	0	7	214	143	1	0	358	1	195	7	0	203	698
08:00 AM	2	0	49	0	51	2	0	0	0	2	48	32	0	0	80	0	43	0	0	43	176
08:15 AM	2	1	42	0	45	0	0	0	0	0	41	41	2	0	84	0	35	4	0	39	168
08:30 AM	1	0	35	0	36	0	0	0	0	0	30	24	0	0	54	0	42	1	0	43	133
08:45 AM	1	0	24	0	25	1	0	0	0	1	27	24	1	0	52	0	31	1	0	32	110
Total	6	1	150	0	157	3	0	0	0	3	146	121	3	0	270	0	151	6	0	157	587
Grand Total	11	3	273	0	287	9	1	0	0	10	360	264	4	0	628	1	346	13	0	360	1285
Apprch %	3.8	1	95.1	0		90	10	0	0		57.3	42	0.6	0		0.3	96.1	3.6	0		
Total %	0.9	0.2	21.2	0	22.3	0.7	0.1	0	0	0.8	28	20.5	0.3	0	48.9	0.1	26.9	1	0	28	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Summit Dr and College Dr

File Name : Summit and College AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



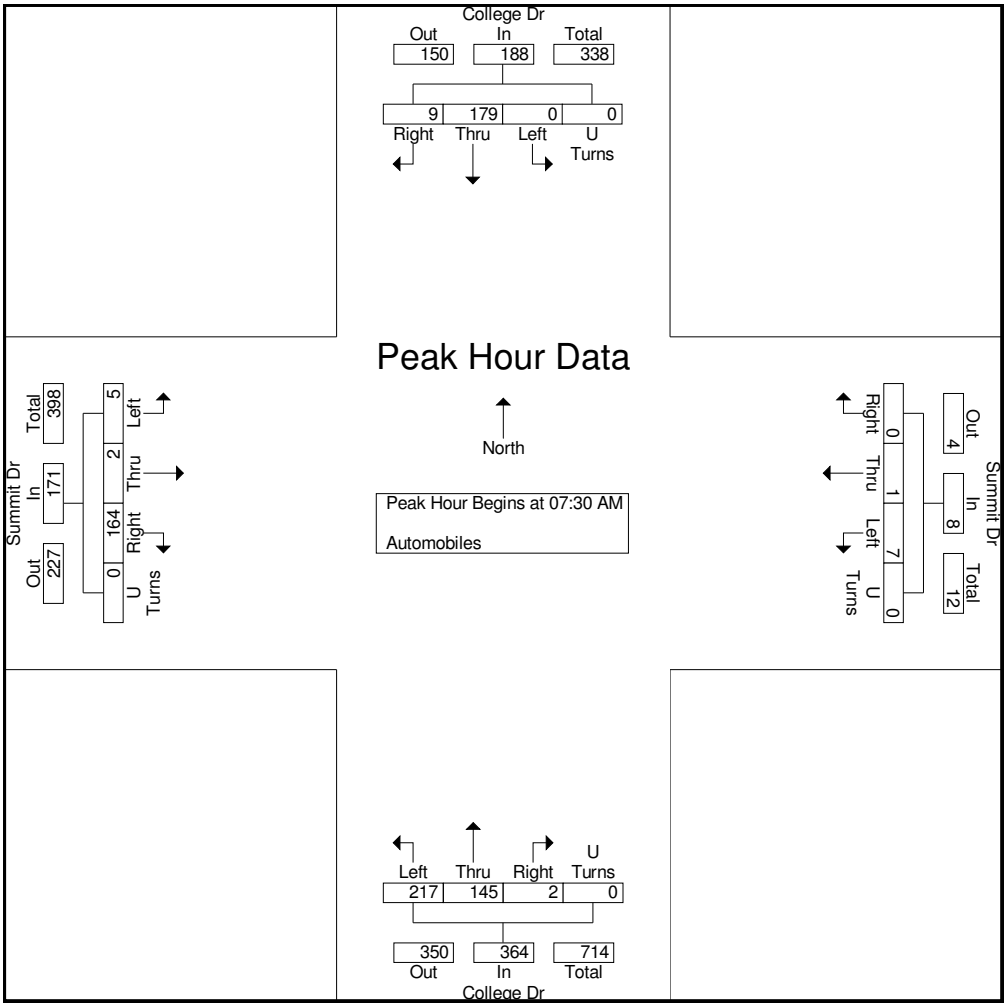
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Summit Dr and College Dr

File Name : Summit and College AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Summit Dr Eastbound					Summit Dr Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	1	0	36	0	37	2	0	0	0	2	64	32	0	0	96	0	54	1	0	55	190
07:45 AM	0	1	37	0	38	3	1	0	0	4	64	40	0	0	104	0	47	4	0	51	197
08:00 AM	2	0	49	0	51	2	0	0	0	2	48	32	0	0	80	0	43	0	0	43	176
08:15 AM	2	1	42	0	45	0	0	0	0	0	41	41	2	0	84	0	35	4	0	39	168
Total Volume	5	2	164	0	171	7	1	0	0	8	217	145	2	0	364	0	179	9	0	188	731
% App. Total	2.9	1.2	95.9	0		87.5	12.5	0	0		59.6	39.8	0.5	0		0	95.2	4.8	0		
PHF	.625	.500	.837	.000	.838	.583	.250	.000	.000	.500	.848	.884	.250	.000	.875	.000	.829	.563	.000	.855	.928



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Summit Dr and College Dr

File Name : Summit and College PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

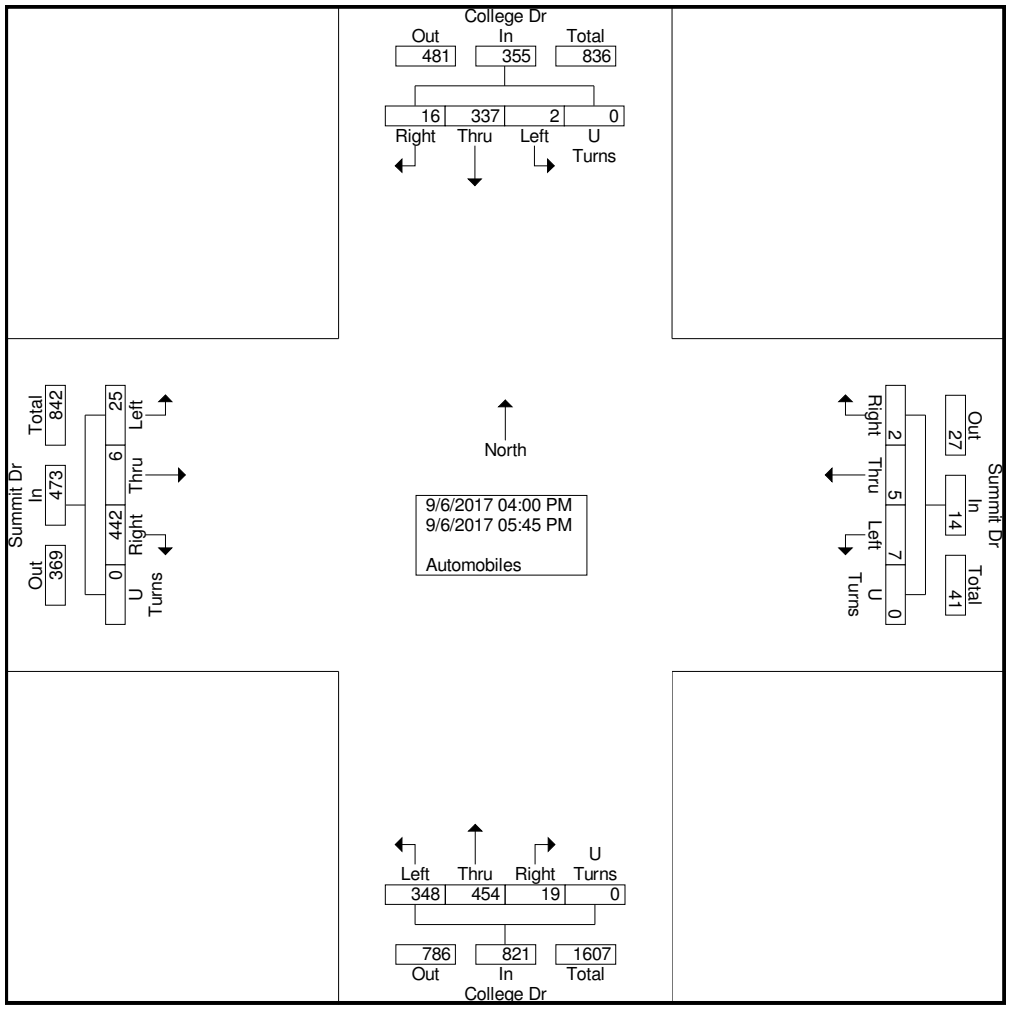
	Summit Dr Eastbound					Summit Dr Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	3	0	44	0	47	0	0	0	0	0	32	45	1	0	78	0	42	3	0	45	170
04:15 PM	2	0	59	0	61	2	0	0	0	2	41	45	1	0	87	0	44	3	0	47	197
04:30 PM	3	0	54	0	57	1	1	0	0	2	47	45	0	0	92	0	43	3	0	46	197
04:45 PM	2	1	56	0	59	0	2	0	0	2	52	47	2	0	101	0	35	2	0	37	199
Total	10	1	213	0	224	3	3	0	0	6	172	182	4	0	358	0	164	11	0	175	763
05:00 PM	4	2	70	0	76	0	1	0	0	1	39	65	7	0	111	1	53	4	0	58	246
05:15 PM	3	2	68	0	73	1	0	1	0	2	46	74	3	0	123	1	47	1	0	49	247
05:30 PM	2	1	61	0	64	3	0	0	0	3	45	70	3	0	118	0	40	0	0	40	225
05:45 PM	6	0	30	0	36	0	1	1	0	2	46	63	2	0	111	0	33	0	0	33	182
Total	15	5	229	0	249	4	2	2	0	8	176	272	15	0	463	2	173	5	0	180	900
Grand Total	25	6	442	0	473	7	5	2	0	14	348	454	19	0	821	2	337	16	0	355	1663
Apprch %	5.3	1.3	93.4	0		50	35.7	14.3	0		42.4	55.3	2.3	0		0.6	94.9	4.5	0		
Total %	1.5	0.4	26.6	0	28.4	0.4	0.3	0.1	0	0.8	20.9	27.3	1.1	0	49.4	0.1	20.3	1	0	21.3	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Summit Dr and College Dr

File Name : Summit and College PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



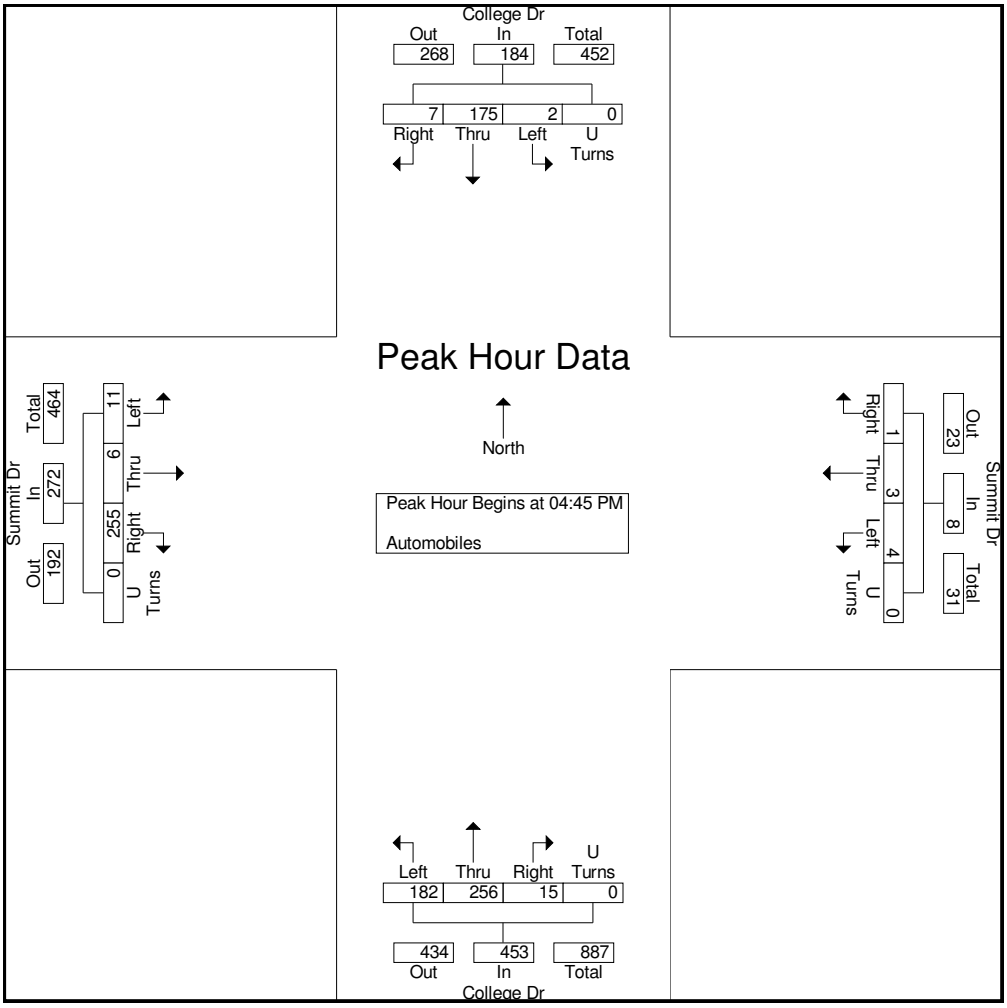
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Summit Dr and College Dr

File Name : Summit and College PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Summit Dr Eastbound					Summit Dr Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	2	1	56	0	59	0	2	0	0	2	52	47	2	0	101	0	35	2	0	37	199
05:00 PM	4	2	70	0	76	0	1	0	0	1	39	65	7	0	111	1	53	4	0	58	246
05:15 PM	3	2	68	0	73	1	0	1	0	2	46	74	3	0	123	1	47	1	0	49	247
05:30 PM	2	1	61	0	64	3	0	0	0	3	45	70	3	0	118	0	40	0	0	40	225
Total Volume	11	6	255	0	272	4	3	1	0	8	182	256	15	0	453	2	175	7	0	184	917
% App. Total	4	2.2	93.8	0		50	37.5	12.5	0		40.2	56.5	3.3	0		1.1	95.1	3.8	0		
PHF	.688	.750	.911	.000	.895	.333	.375	.250	.000	.667	.875	.865	.536	.000	.921	.500	.825	.438	.000	.793	.928



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Thomas Rd and College Dr

File Name : Thomas and College AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

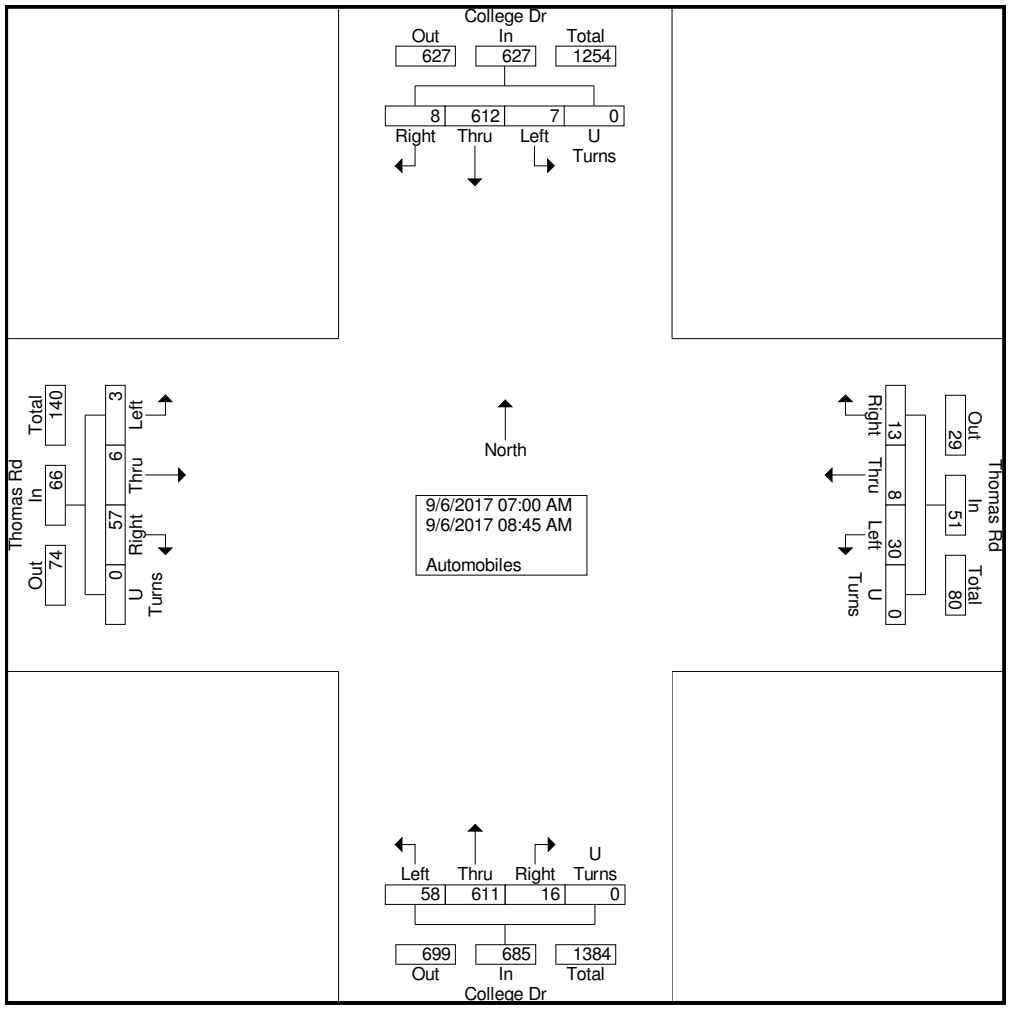
	Thomas Rd Eastbound					Thomas Rd Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	2	7	0	9	3	0	4	0	7	8	80	3	0	91	0	66	1	0	67	174
07:15 AM	0	0	9	0	9	2	1	2	0	5	8	74	1	0	83	1	73	2	0	76	173
07:30 AM	0	0	10	0	10	3	1	2	0	6	2	96	3	0	101	3	87	2	0	92	209
07:45 AM	0	1	7	0	8	2	3	0	0	5	10	102	2	0	114	0	85	1	0	86	213
Total	0	3	33	0	36	10	5	8	0	23	28	352	9	0	389	4	311	6	0	321	769
08:00 AM	1	1	3	0	5	4	1	1	0	6	8	76	1	0	85	0	95	1	0	96	192
08:15 AM	0	1	5	0	6	12	1	2	0	15	6	81	2	0	89	1	76	1	0	78	188
08:30 AM	1	1	11	0	13	1	0	1	0	2	11	52	1	0	64	2	73	0	0	75	154
08:45 AM	1	0	5	0	6	3	1	1	0	5	5	50	3	0	58	0	57	0	0	57	126
Total	3	3	24	0	30	20	3	5	0	28	30	259	7	0	296	3	301	2	0	306	660
Grand Total	3	6	57	0	66	30	8	13	0	51	58	611	16	0	685	7	612	8	0	627	1429
Apprch %	4.5	9.1	86.4	0		58.8	15.7	25.5	0		8.5	89.2	2.3	0		1.1	97.6	1.3	0		
Total %	0.2	0.4	4	0	4.6	2.1	0.6	0.9	0	3.6	4.1	42.8	1.1	0	47.9	0.5	42.8	0.6	0	43.9	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Thomas Rd and College Dr

File Name : Thomas and College AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



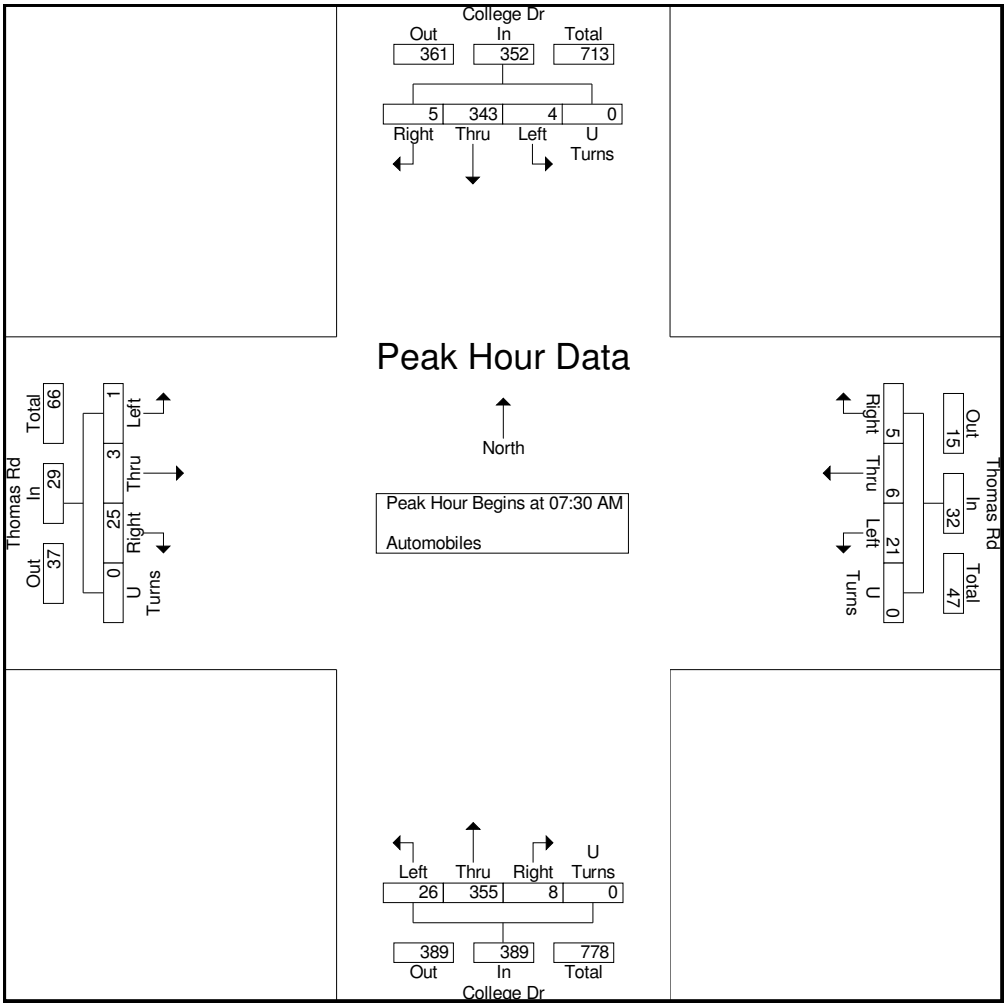
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Thomas Rd and College Dr

File Name : Thomas and College AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Thomas Rd Eastbound					Thomas Rd Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	10	0	10	3	1	2	0	6	2	96	3	0	101	3	87	2	0	92	209
07:45 AM	0	1	7	0	8	2	3	0	0	5	10	102	2	0	114	0	85	1	0	86	213
08:00 AM	1	1	3	0	5	4	1	1	0	6	8	76	1	0	85	0	95	1	0	96	192
08:15 AM	0	1	5	0	6	12	1	2	0	15	6	81	2	0	89	1	76	1	0	78	188
Total Volume	1	3	25	0	29	21	6	5	0	32	26	355	8	0	389	4	343	5	0	352	802
% App. Total	3.4	10.3	86.2	0		65.6	18.8	15.6	0		6.7	91.3	2.1	0		1.1	97.4	1.4	0		
PHF	.250	.750	.625	.000	.725	.438	.500	.625	.000	.533	.650	.870	.667	.000	.853	.333	.903	.625	.000	.917	.941



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Thomas Rd and College Dr

File Name : Thomas and College PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

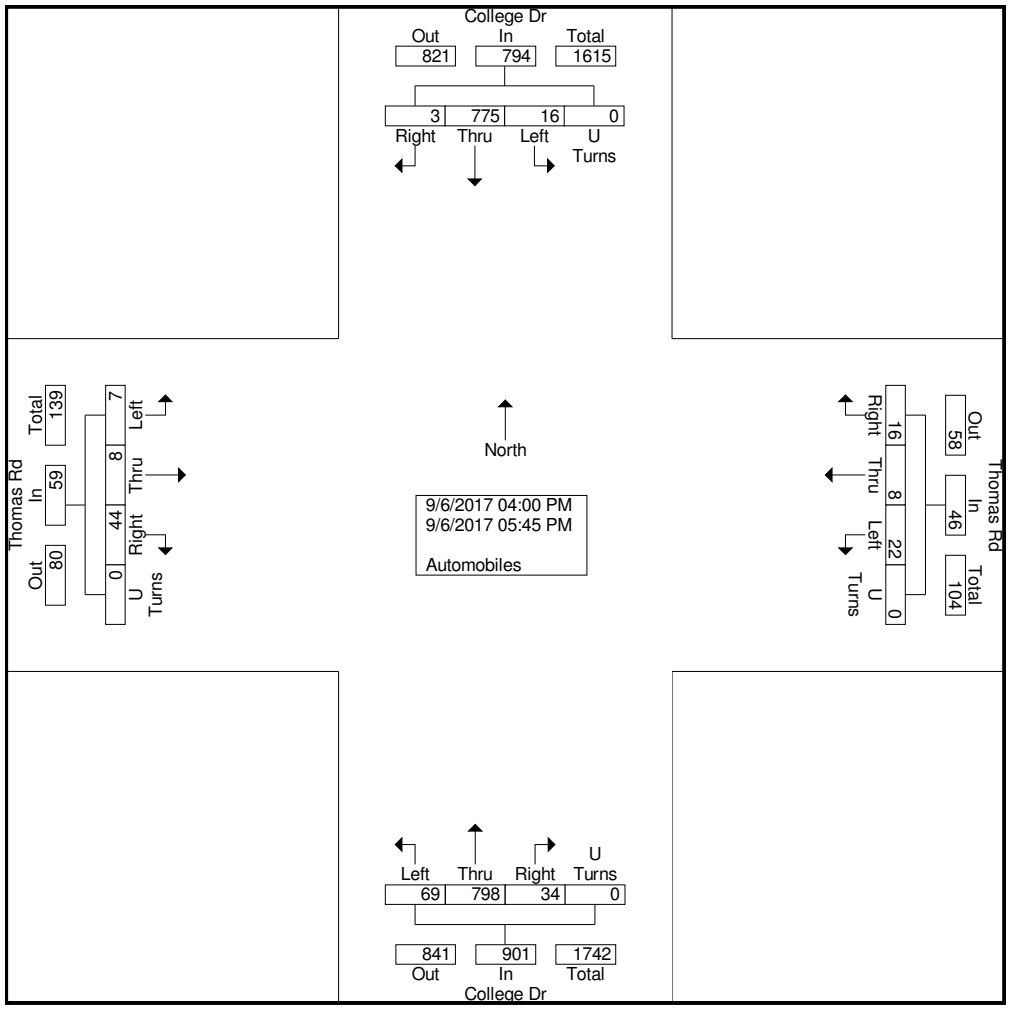
	Thomas Rd Eastbound					Thomas Rd Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	2	1	8	0	11	0	1	2	0	3	4	79	8	0	91	4	82	0	0	86	191
04:15 PM	0	1	1	0	2	3	1	3	0	7	7	80	1	0	88	1	106	0	0	107	204
04:30 PM	1	0	4	0	5	5	1	2	0	8	7	89	4	0	100	1	94	0	0	95	208
04:45 PM	2	2	3	0	7	3	1	3	0	7	6	105	5	0	116	1	96	1	0	98	228
Total	5	4	16	0	25	11	4	10	0	25	24	353	18	0	395	7	378	1	0	386	831
05:00 PM	1	0	8	0	9	1	1	0	0	2	4	105	3	0	112	2	119	1	0	122	245
05:15 PM	0	3	4	0	7	5	0	2	0	7	17	118	4	0	139	1	117	0	0	118	271
05:30 PM	0	1	9	0	10	2	2	3	0	7	8	116	4	0	128	5	98	0	0	103	248
05:45 PM	1	0	7	0	8	3	1	1	0	5	16	106	5	0	127	1	63	1	0	65	205
Total	2	4	28	0	34	11	4	6	0	21	45	445	16	0	506	9	397	2	0	408	969
Grand Total	7	8	44	0	59	22	8	16	0	46	69	798	34	0	901	16	775	3	0	794	1800
Apprch %	11.9	13.6	74.6	0		47.8	17.4	34.8	0		7.7	88.6	3.8	0		2	97.6	0.4	0		
Total %	0.4	0.4	2.4	0	3.3	1.2	0.4	0.9	0	2.6	3.8	44.3	1.9	0	50.1	0.9	43.1	0.2	0	44.1	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Thomas Rd and College Dr

File Name : Thomas and College PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



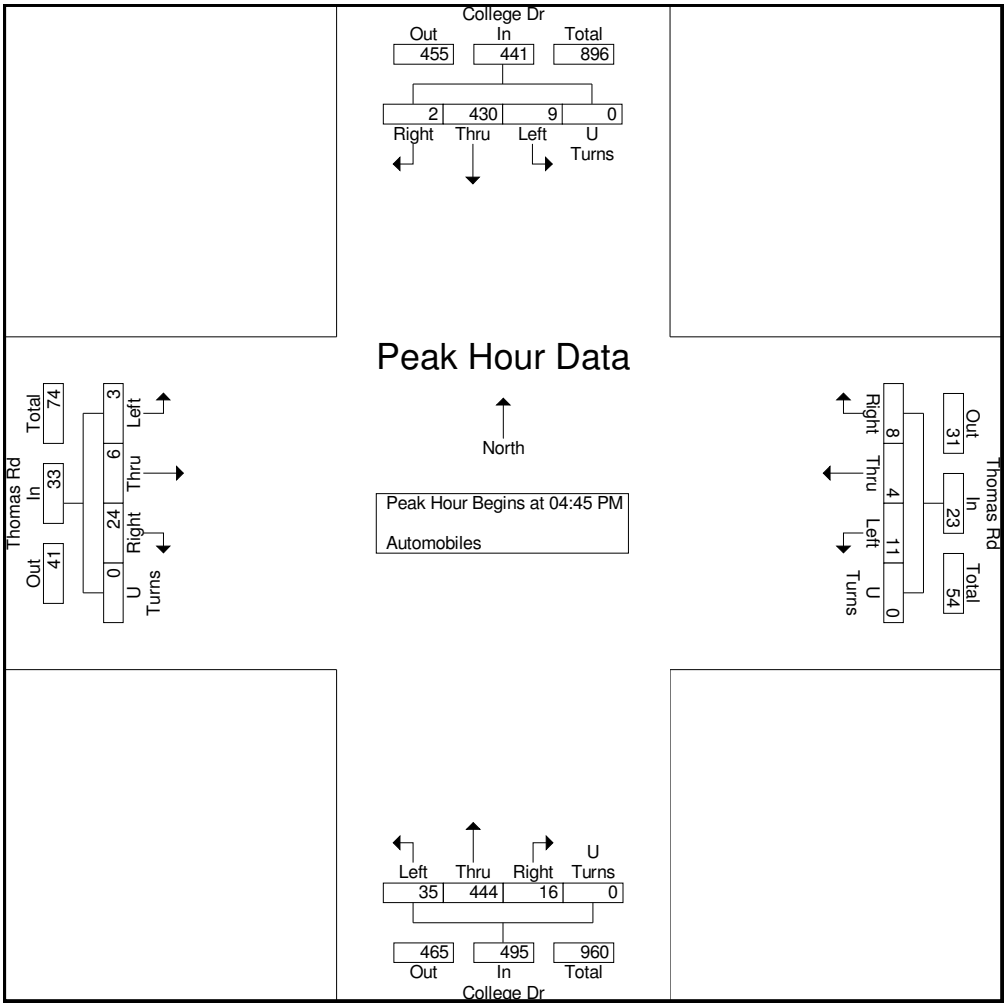
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Thomas Rd and College Dr

File Name : Thomas and College PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Thomas Rd Eastbound					Thomas Rd Westbound					College Dr Northbound					College Dr Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	2	2	3	0	7	3	1	3	0	7	6	105	5	0	116	1	96	1	0	98	228
05:00 PM	1	0	8	0	9	1	1	0	0	2	4	105	3	0	112	2	119	1	0	122	245
05:15 PM	0	3	4	0	7	5	0	2	0	7	17	118	4	0	139	1	117	0	0	118	271
05:30 PM	0	1	9	0	10	2	2	3	0	7	8	116	4	0	128	5	98	0	0	103	248
Total Volume	3	6	24	0	33	11	4	8	0	23	35	444	16	0	495	9	430	2	0	441	992
% App. Total	9.1	18.2	72.7	0		47.8	17.4	34.8	0		7.1	89.7	3.2	0		2	97.5	0.5	0		
PHF	.375	.500	.667	.000	.825	.550	.500	.667	.000	.821	.515	.941	.800	.000	.890	.450	.903	.500	.000	.904	.915



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Beckle Rd and Whitney Rd

File Name : Beckle and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

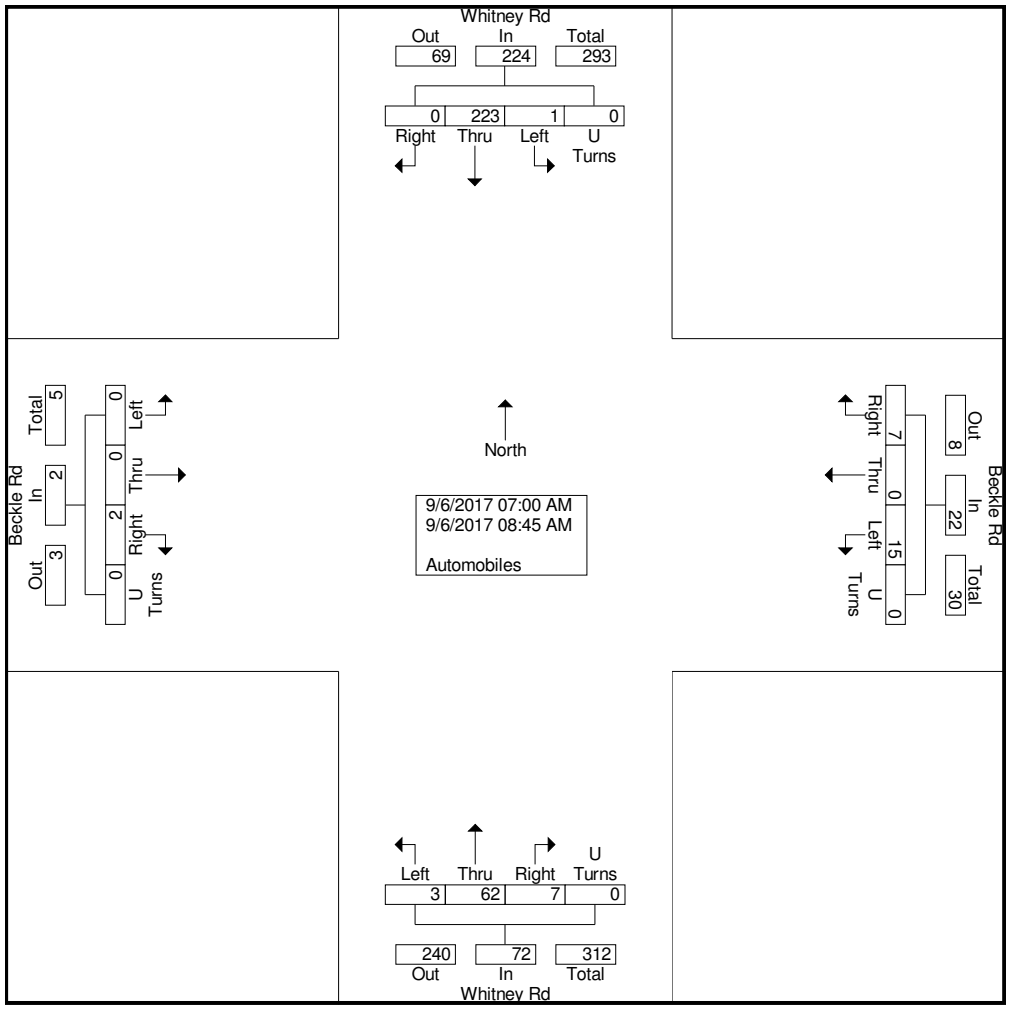
	Beckle Rd Eastbound					Beckle Rd Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
07:00 AM	0	0	1	0	1	4	0	1	0	5	2	3	0	0	5	0	48	0	0	48	59
07:15 AM	0	0	0	0	0	2	0	0	0	2	0	6	1	0	7	0	41	0	0	41	50
07:30 AM	0	0	0	0	0	3	0	1	0	4	0	9	2	0	11	0	39	0	0	39	54
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	1	30	0	0	31	41
Total	0	0	1	0	1	9	0	2	0	11	2	27	4	0	33	1	158	0	0	159	204
08:00 AM	0	0	0	0	0	3	0	2	0	5	0	3	1	0	4	0	20	0	0	20	29
08:15 AM	0	0	1	0	1	1	0	1	0	2	0	12	0	0	12	0	16	0	0	16	31
08:30 AM	0	0	0	0	0	0	0	0	0	0	1	11	2	0	14	0	15	0	0	15	29
08:45 AM	0	0	0	0	0	2	0	2	0	4	0	9	0	0	9	0	14	0	0	14	27
Total	0	0	1	0	1	6	0	5	0	11	1	35	3	0	39	0	65	0	0	65	116
Grand Total	0	0	2	0	2	15	0	7	0	22	3	62	7	0	72	1	223	0	0	224	320
Apprch %	0	0	100	0		68.2	0	31.8	0		4.2	86.1	9.7	0		0.4	99.6	0	0		
Total %	0	0	0.6	0	0.6	4.7	0	2.2	0	6.9	0.9	19.4	2.2	0	22.5	0.3	69.7	0	0	70	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Beckle Rd and Whitney Rd

File Name : Beckle and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



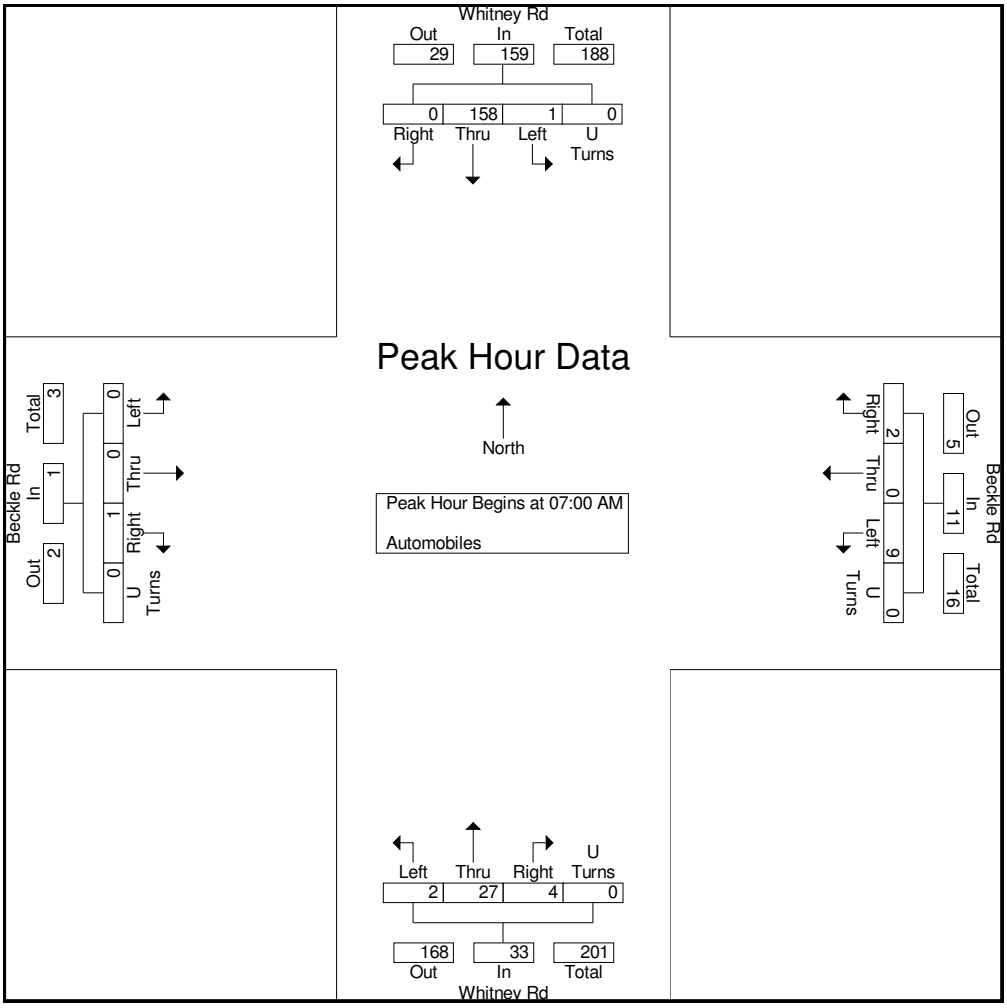
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Beckle Rd and Whitney Rd

File Name : Beckle and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Beckle Rd Eastbound					Beckle Rd Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	1	0	1	4	0	1	0	5	2	3	0	0	5	0	48	0	0	48	59
07:15 AM	0	0	0	0	0	2	0	0	0	2	0	6	1	0	7	0	41	0	0	41	50
07:30 AM	0	0	0	0	0	3	0	1	0	4	0	9	2	0	11	0	39	0	0	39	54
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	1	30	0	0	31	41
Total Volume	0	0	1	0	1	9	0	2	0	11	2	27	4	0	33	1	158	0	0	159	204
% App. Total	0	0	100	0		81.8	0	18.2	0		6.1	81.8	12.1	0		0.6	99.4	0	0		
PHF	.000	.000	.250	.000	.250	.563	.000	.500	.000	.550	.250	.750	.500	.000	.750	.250	.823	.000	.000	.828	.864



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Beckle Rd and Whitney Rd

File Name : Beckle and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

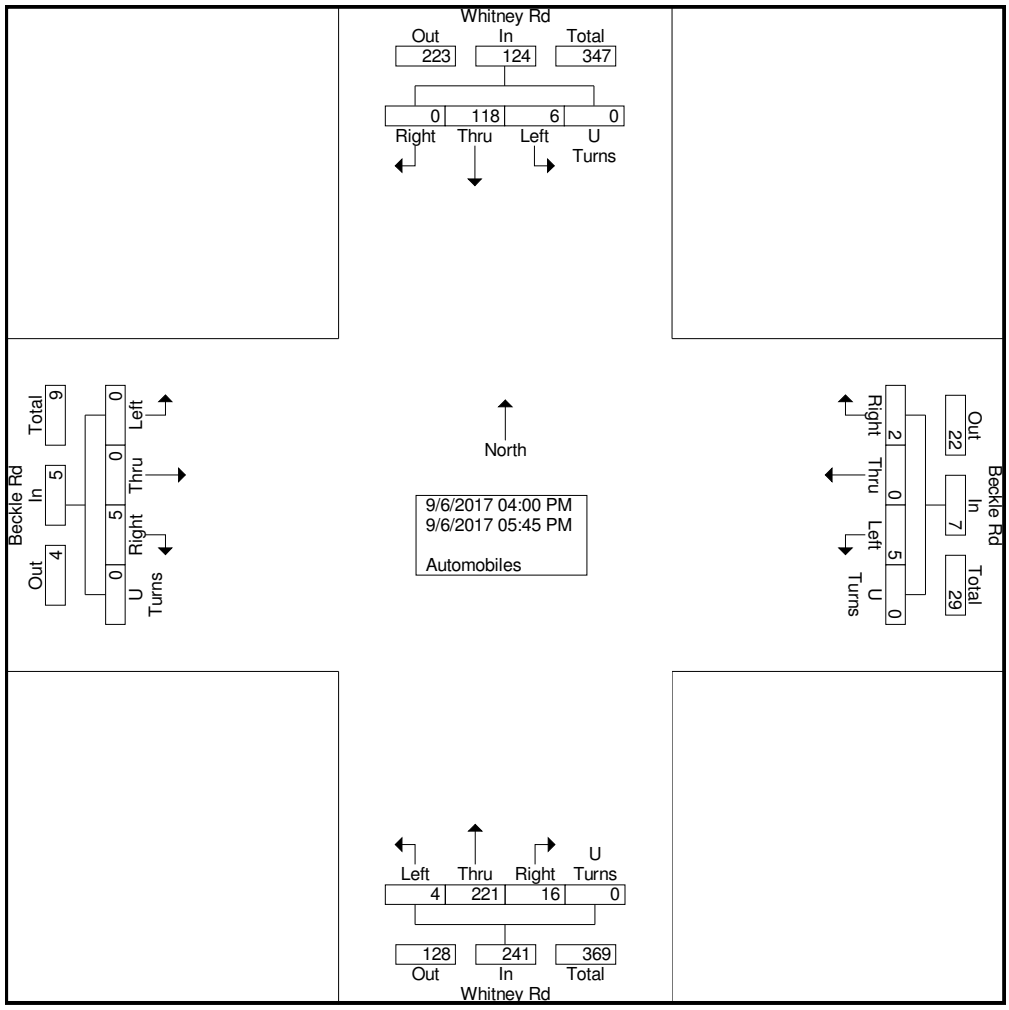
	Beckle Rd Eastbound					Beckle Rd Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
04:00 PM	0	0	1	0	1	0	0	0	0	0	2	26	1	0	29	2	13	0	0	15	45
04:15 PM	0	0	0	0	0	1	0	0	0	1	0	33	0	0	33	1	15	0	0	16	50
04:30 PM	0	0	3	0	3	0	0	1	0	1	0	27	2	0	29	0	14	0	0	14	47
04:45 PM	0	0	0	0	0	1	0	0	0	1	0	23	2	0	25	0	15	0	0	15	41
Total	0	0	4	0	4	2	0	1	0	3	2	109	5	0	116	3	57	0	0	60	183
05:00 PM	0	0	0	0	0	1	0	0	0	1	1	24	4	0	29	2	24	0	0	26	56
05:15 PM	0	0	1	0	1	1	0	1	0	2	0	36	1	0	37	1	16	0	0	17	57
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	27	3	0	31	0	10	0	0	10	41
05:45 PM	0	0	0	0	0	1	0	0	0	1	0	25	3	0	28	0	11	0	0	11	40
Total	0	0	1	0	1	3	0	1	0	4	2	112	11	0	125	3	61	0	0	64	194
Grand Total	0	0	5	0	5	5	0	2	0	7	4	221	16	0	241	6	118	0	0	124	377
Apprch %	0	0	100	0		71.4	0	28.6	0		1.7	91.7	6.6	0		4.8	95.2	0	0		
Total %	0	0	1.3	0	1.3	1.3	0	0.5	0	1.9	1.1	58.6	4.2	0	63.9	1.6	31.3	0	0	32.9	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Beckle Rd and Whitney Rd

File Name : Beckle and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



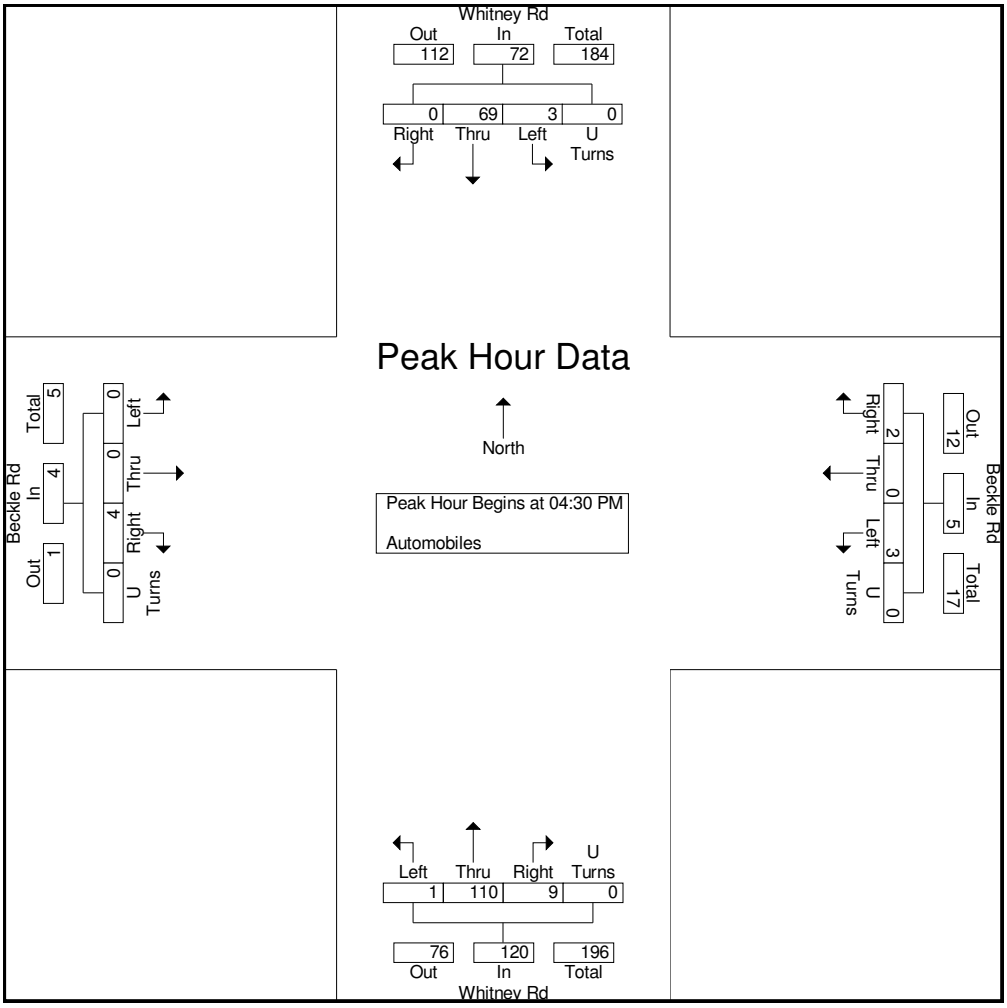
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Beckle Rd and Whitney Rd

File Name : Beckle and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Beckle Rd Eastbound					Beckle Rd Westbound					Whitney Rd Northbound					Whitney Rd Southbound					
Start Time	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Left	Thru	Right	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	3	0	3	0	0	1	0	1	0	27	2	0	29	0	14	0	0	14	47
04:45 PM	0	0	0	0	0	1	0	0	0	1	0	23	2	0	25	0	15	0	0	15	41
05:00 PM	0	0	0	0	0	1	0	0	0	1	1	24	4	0	29	2	24	0	0	26	56
05:15 PM	0	0	1	0	1	1	0	1	0	2	0	36	1	0	37	1	16	0	0	17	57
Total Volume	0	0	4	0	4	3	0	2	0	5	1	110	9	0	120	3	69	0	0	72	201
% App. Total	0	0	100	0		60	0	40	0		0.8	91.7	7.5	0		4.2	95.8	0	0		
PHF	.000	.000	.333	.000	.333	.750	.000	.500	.000	.625	.250	.764	.563	.000	.811	.375	.719	.000	.000	.692	.882



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Buttercup Dr and Whitney Rd

File Name : Buttercup and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

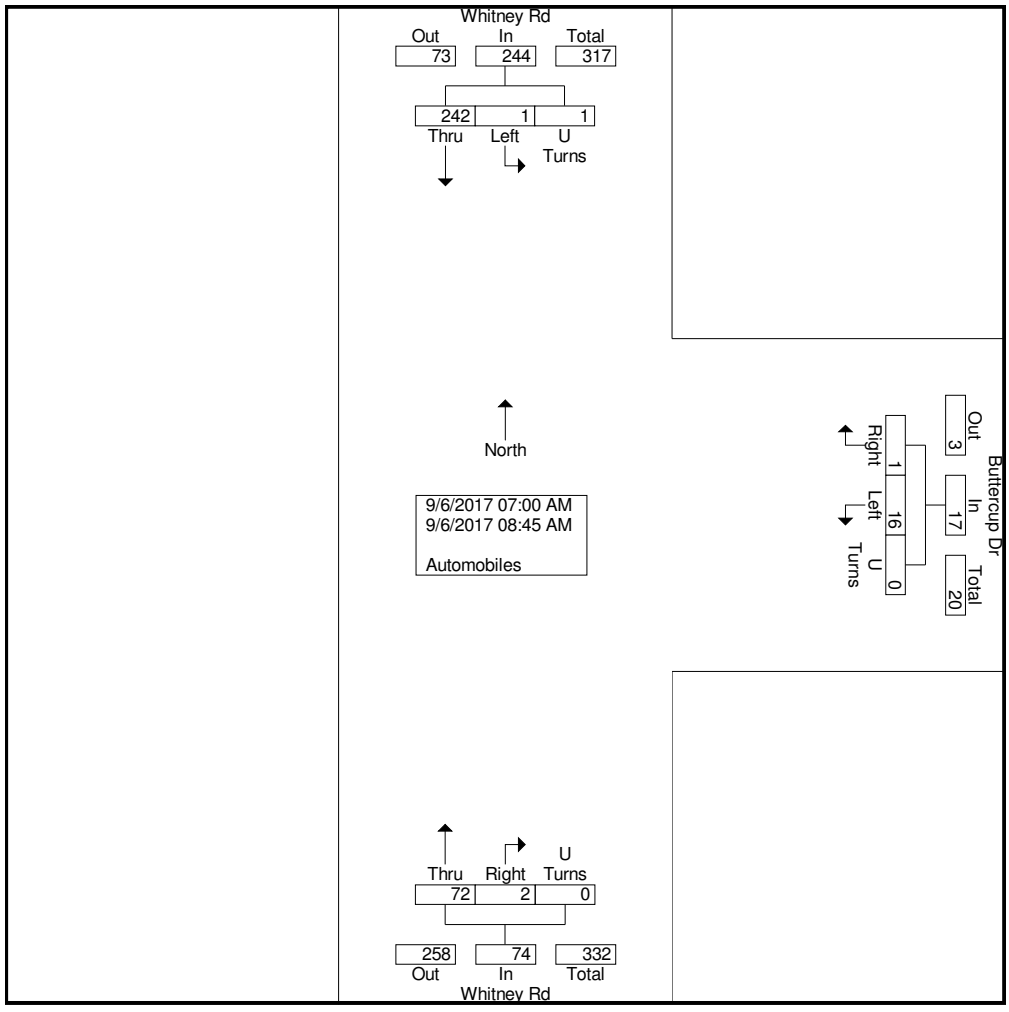
	Buttercup Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
07:00 AM	2	0	0	2	5	0	0	5	0	54	0	54	61
07:15 AM	5	0	0	5	7	0	0	7	0	43	0	43	55
07:30 AM	2	1	0	3	12	0	0	12	0	43	1	44	59
07:45 AM	3	0	0	3	9	1	0	10	1	29	0	30	43
Total	12	1	0	13	33	1	0	34	1	169	1	171	218
08:00 AM	2	0	0	2	4	1	0	5	0	24	0	24	31
08:15 AM	1	0	0	1	12	0	0	12	0	18	0	18	31
08:30 AM	0	0	0	0	15	0	0	15	0	15	0	15	30
08:45 AM	1	0	0	1	8	0	0	8	0	16	0	16	25
Total	4	0	0	4	39	1	0	40	0	73	0	73	117
Grand Total	16	1	0	17	72	2	0	74	1	242	1	244	335
Apprch %	94.1	5.9	0		97.3	2.7	0		0.4	99.2	0.4		
Total %	4.8	0.3	0	5.1	21.5	0.6	0	22.1	0.3	72.2	0.3	72.8	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Buttercup Dr and Whitney Rd

File Name : Buttercup and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



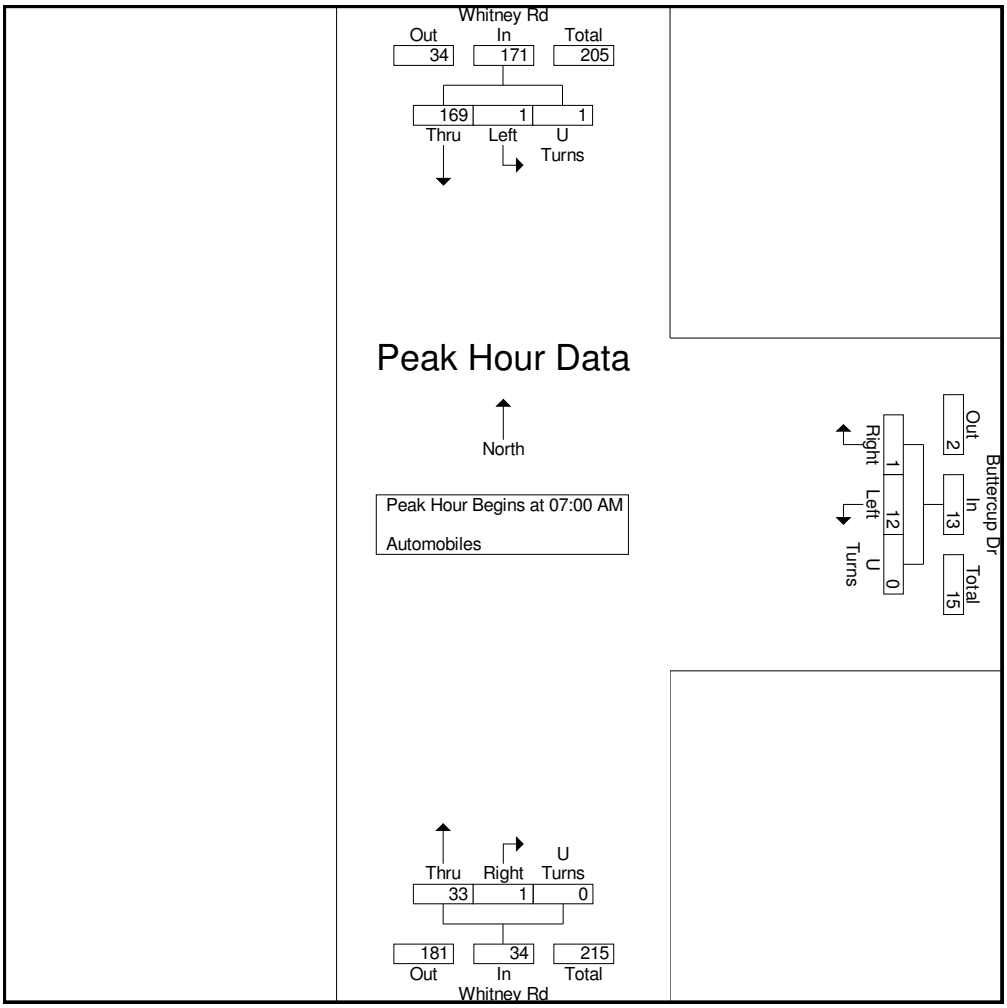
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Buttercup Dr and Whitney Rd

File Name : Buttercup and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Buttercup Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	2	0	0	2	5	0	0	5	0	54	0	54	61
07:15 AM	5	0	0	5	7	0	0	7	0	43	0	43	55
07:30 AM	2	1	0	3	12	0	0	12	0	43	1	44	59
07:45 AM	3	0	0	3	9	1	0	10	1	29	0	30	43
Total Volume	12	1	0	13	33	1	0	34	1	169	1	171	218
% App. Total	92.3	7.7	0		97.1	2.9	0		0.6	98.8	0.6		
PHF	.600	.250	.000	.650	.688	.250	.000	.708	.250	.782	.250	.792	.893



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Buttercup Dr and Whitney Rd

File Name : Buttercup and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

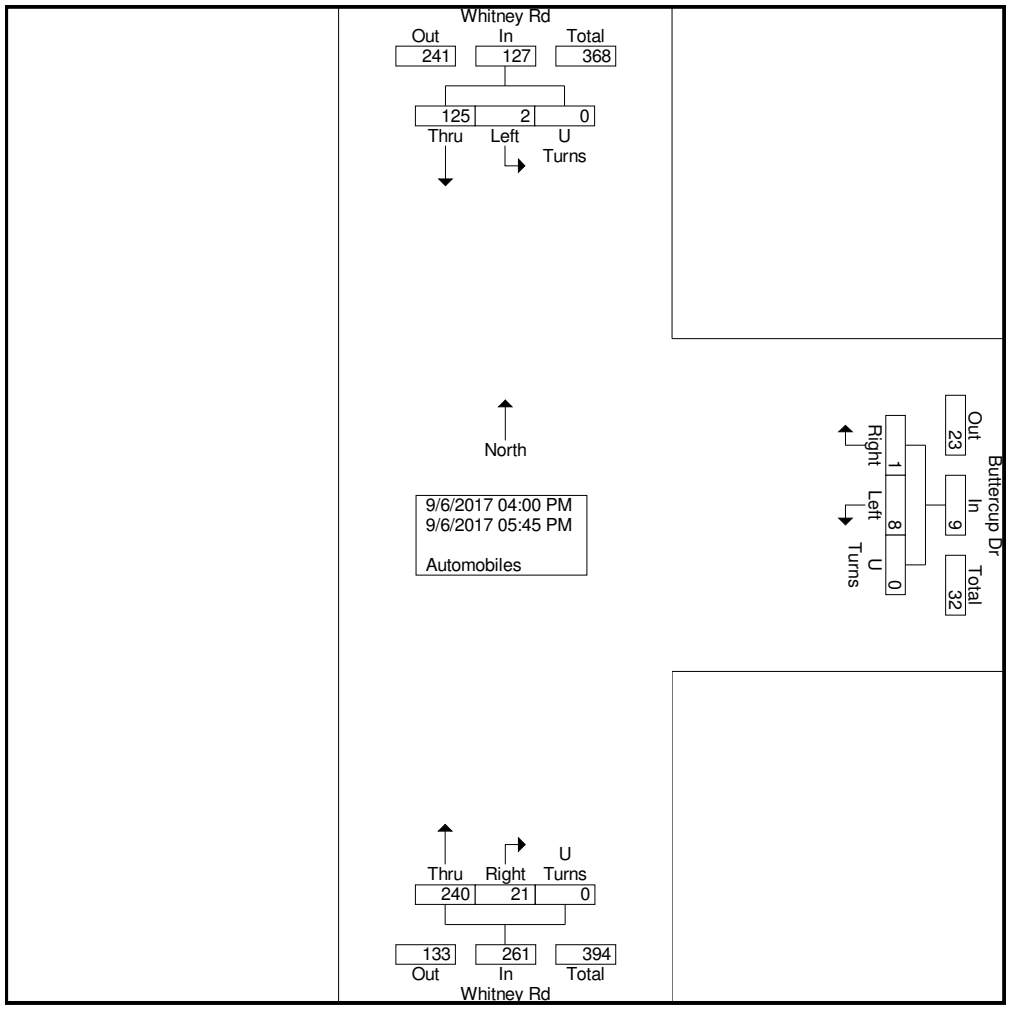
	Buttercup Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
04:00 PM	0	0	0	0	28	1	0	29	0	13	0	13	42
04:15 PM	0	0	0	0	32	0	0	32	0	16	0	16	48
04:30 PM	0	1	0	1	28	3	0	31	0	17	0	17	49
04:45 PM	0	0	0	0	25	3	0	28	0	16	0	16	44
Total	0	1	0	1	113	7	0	120	0	62	0	62	183
05:00 PM	2	0	0	2	30	4	0	34	1	24	0	25	61
05:15 PM	1	0	0	1	36	3	0	39	0	18	0	18	58
05:30 PM	5	0	0	5	34	5	0	39	1	9	0	10	54
05:45 PM	0	0	0	0	27	2	0	29	0	12	0	12	41
Total	8	0	0	8	127	14	0	141	2	63	0	65	214
Grand Total	8	1	0	9	240	21	0	261	2	125	0	127	397
Apprch %	88.9	11.1	0		92	8	0		1.6	98.4	0		
Total %	2	0.3	0	2.3	60.5	5.3	0	65.7	0.5	31.5	0	32	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Buttercup Dr and Whitney Rd

File Name : Buttercup and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



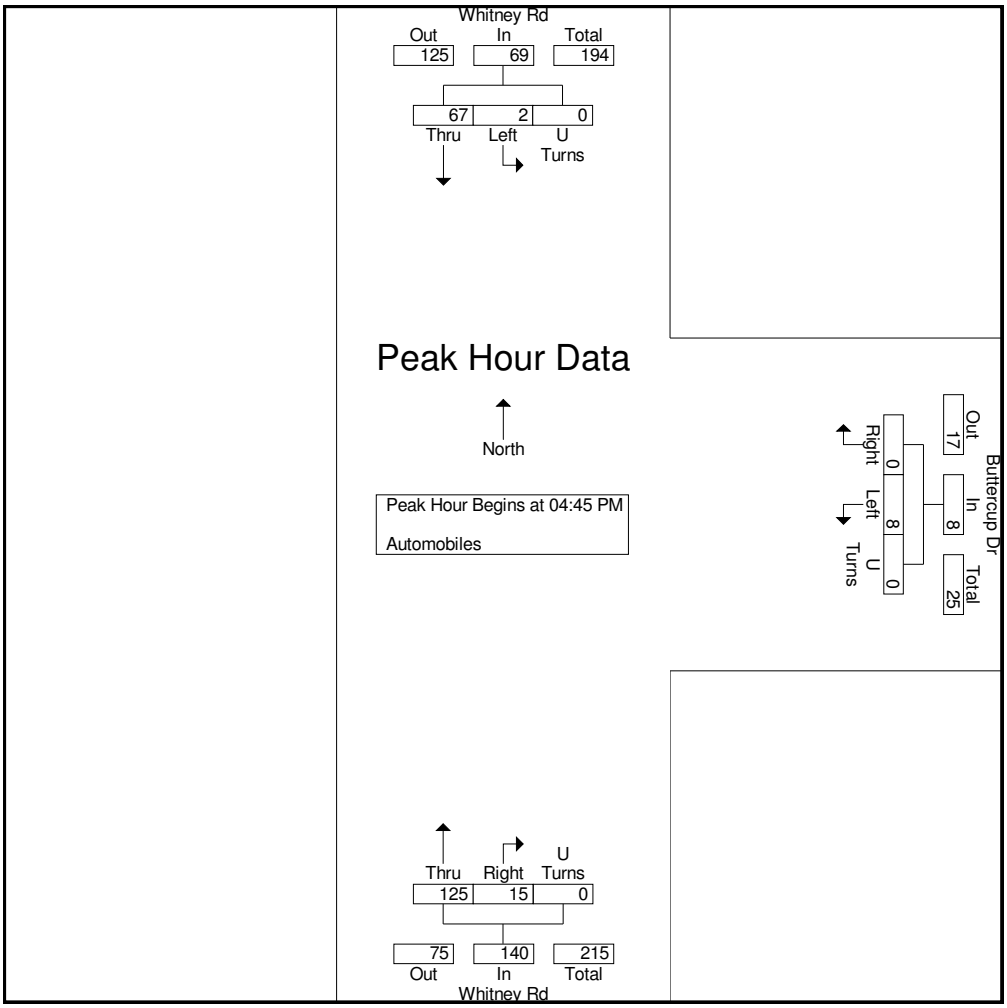
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Buttercup Dr and Whitney Rd

File Name : Buttercup and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Buttercup Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	0	0	0	0	25	3	0	28	0	16	0	16	44
05:00 PM	2	0	0	2	30	4	0	34	1	24	0	25	61
05:15 PM	1	0	0	1	36	3	0	39	0	18	0	18	58
05:30 PM	5	0	0	5	34	5	0	39	1	9	0	10	54
Total Volume	8	0	0	8	125	15	0	140	2	67	0	69	217
% App. Total	100	0	0		89.3	10.7	0		2.9	97.1	0		
PHF	.400	.000	.000	.400	.868	.750	.000	.897	.500	.698	.000	.690	.889



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Chickadee Dr and Whitney Rd

File Name : Chickadee and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

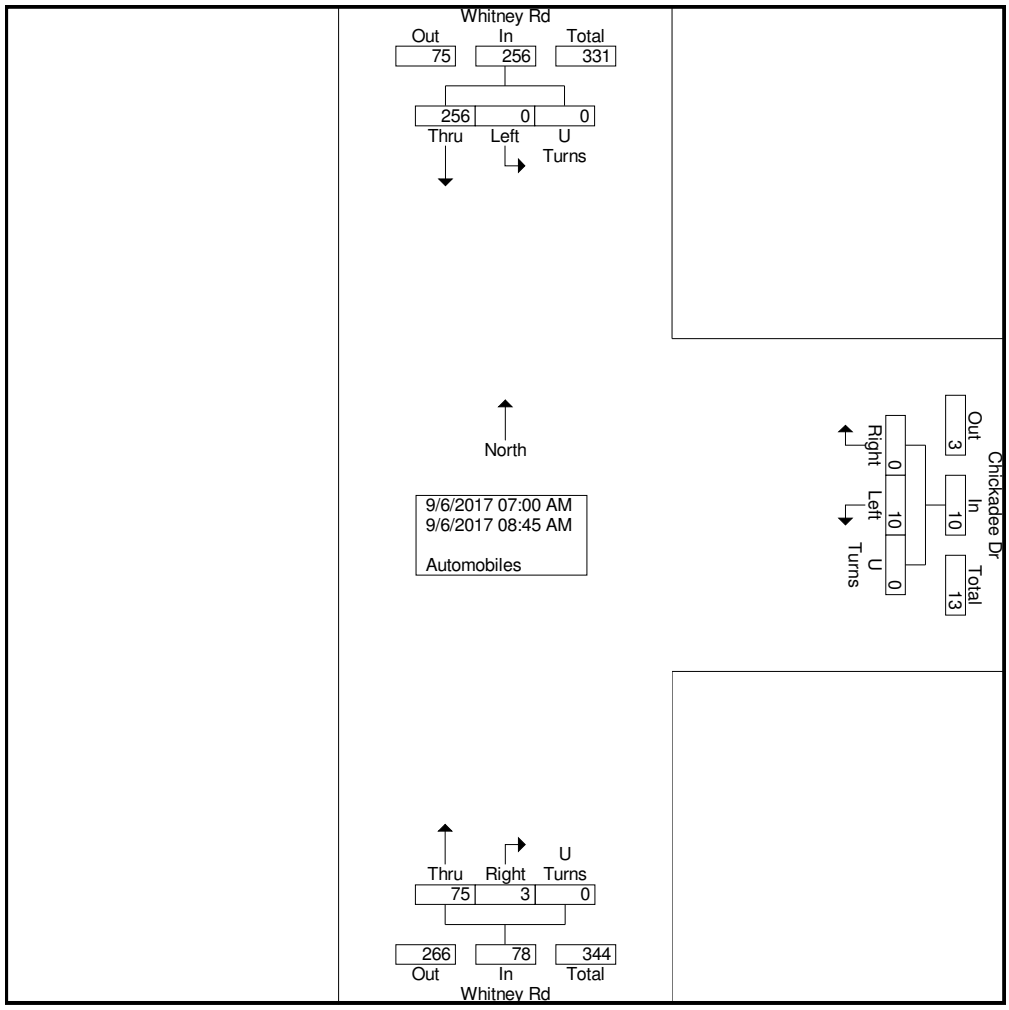
	Chickadee Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
07:00 AM	0	0	0	0	6	0	0	6	0	55	0	55	61
07:15 AM	2	0	0	2	7	0	0	7	0	49	0	49	58
07:30 AM	1	0	0	1	11	0	0	11	0	43	0	43	55
07:45 AM	2	0	0	2	12	0	0	12	0	34	0	34	48
Total	5	0	0	5	36	0	0	36	0	181	0	181	222
08:00 AM	3	0	0	3	3	0	0	3	0	26	0	26	32
08:15 AM	1	0	0	1	12	0	0	12	0	17	0	17	30
08:30 AM	1	0	0	1	17	2	0	19	0	16	0	16	36
08:45 AM	0	0	0	0	7	1	0	8	0	16	0	16	24
Total	5	0	0	5	39	3	0	42	0	75	0	75	122
Grand Total	10	0	0	10	75	3	0	78	0	256	0	256	344
Apprch %	100	0	0		96.2	3.8	0		0	100	0		
Total %	2.9	0	0	2.9	21.8	0.9	0	22.7	0	74.4	0	74.4	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Chickadee Dr and Whitney Rd

File Name : Chickadee and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



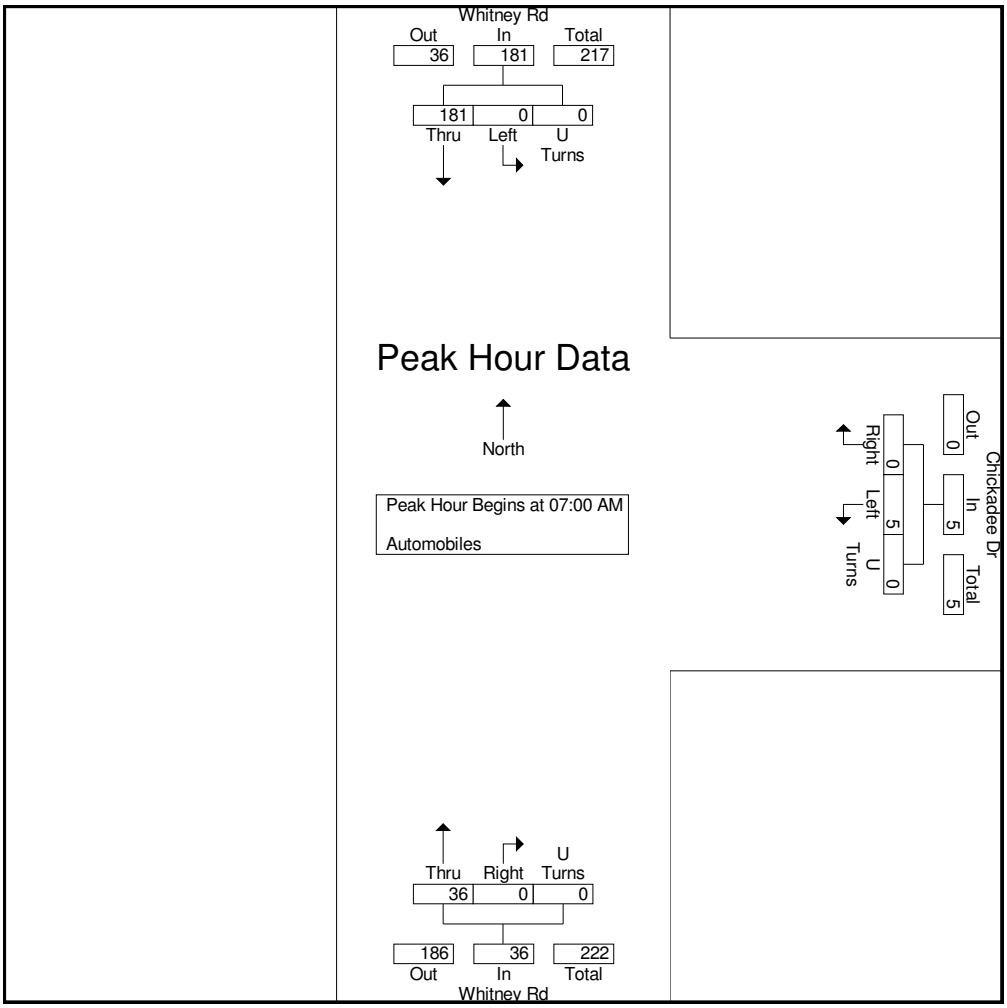
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Chickadee Dr and Whitney Rd

File Name : Chickadee and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Chickadee Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	0	0	0	6	0	0	6	0	55	0	55	61
07:15 AM	2	0	0	2	7	0	0	7	0	49	0	49	58
07:30 AM	1	0	0	1	11	0	0	11	0	43	0	43	55
07:45 AM	2	0	0	2	12	0	0	12	0	34	0	34	48
Total Volume	5	0	0	5	36	0	0	36	0	181	0	181	222
% App. Total	100	0	0		100	0	0		0	100	0		
PHF	.625	.000	.000	.625	.750	.000	.000	.750	.000	.823	.000	.823	.910



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Chickadee Dr and Whitney Rd

File Name : Chickadee and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

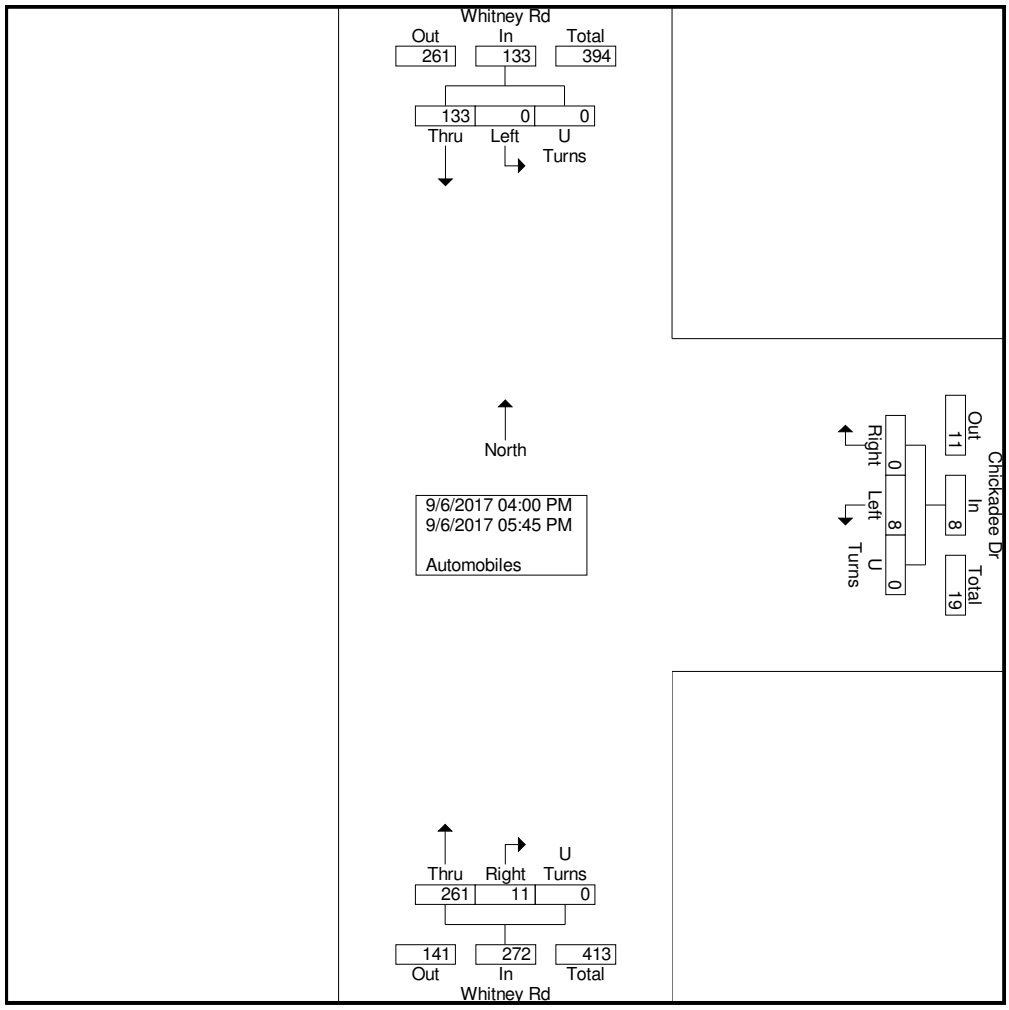
	Chickadee Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
04:00 PM	1	0	0	1	29	0	0	29	0	15	0	15	45
04:15 PM	0	0	0	0	31	2	0	33	0	14	0	14	47
04:30 PM	0	0	0	0	31	2	0	33	0	17	0	17	50
04:45 PM	2	0	0	2	30	3	0	33	0	16	0	16	51
Total	3	0	0	3	121	7	0	128	0	62	0	62	193
05:00 PM	3	0	0	3	32	2	0	34	0	27	0	27	64
05:15 PM	1	0	0	1	44	1	0	45	0	18	0	18	64
05:30 PM	1	0	0	1	34	0	0	34	0	14	0	14	49
05:45 PM	0	0	0	0	30	1	0	31	0	12	0	12	43
Total	5	0	0	5	140	4	0	144	0	71	0	71	220
Grand Total	8	0	0	8	261	11	0	272	0	133	0	133	413
Apprch %	100	0	0		96	4	0		0	100	0		
Total %	1.9	0	0	1.9	63.2	2.7	0	65.9	0	32.2	0	32.2	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Chickadee Dr and Whitney Rd

File Name : Chickadee and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



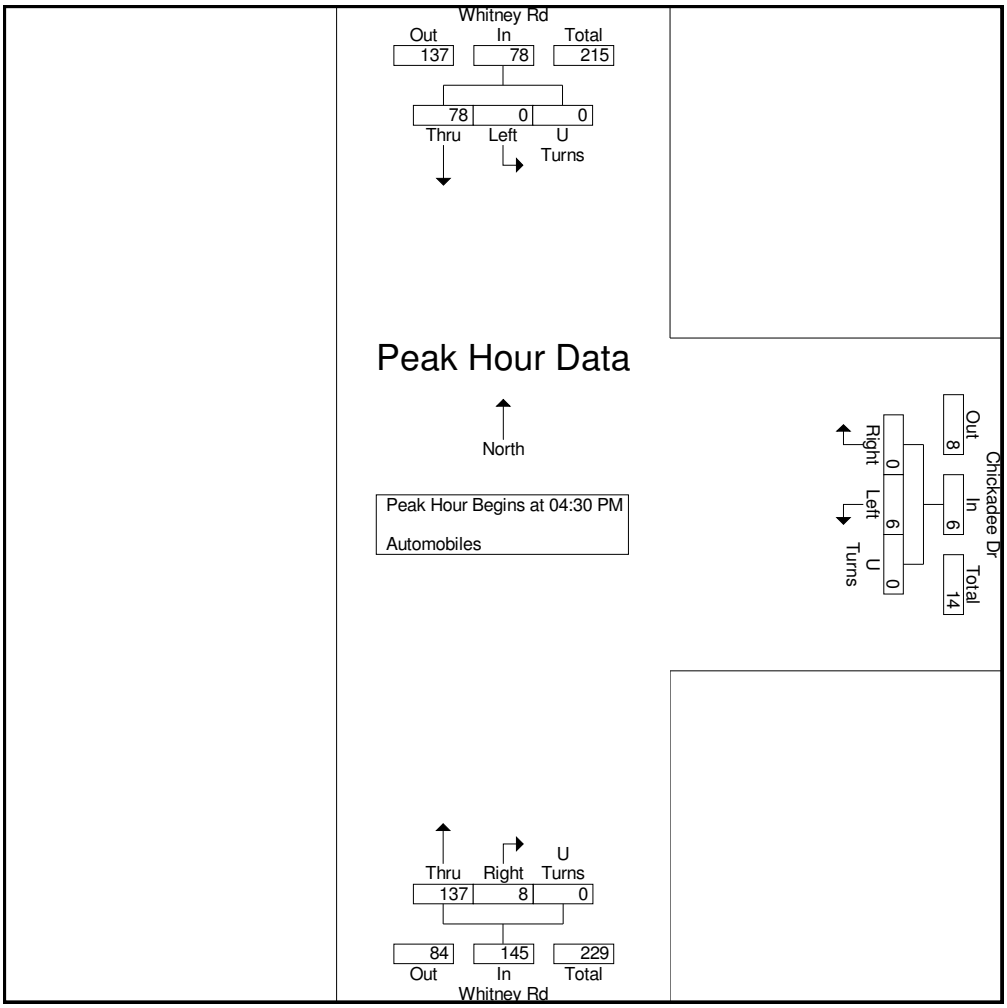
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Chickadee Dr and Whitney Rd

File Name : Chickadee and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Chickadee Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	0	0	0	0	31	2	0	33	0	17	0	17	50
04:45 PM	2	0	0	2	30	3	0	33	0	16	0	16	51
05:00 PM	3	0	0	3	32	2	0	34	0	27	0	27	64
05:15 PM	1	0	0	1	44	1	0	45	0	18	0	18	64
Total Volume	6	0	0	6	137	8	0	145	0	78	0	78	229
% App. Total	100	0	0		94.5	5.5	0		0	100	0		
PHF	.500	.000	.000	.500	.778	.667	.000	.806	.000	.722	.000	.722	.895



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Foxglove Dr and Whitney Rd

File Name : Foxglove and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

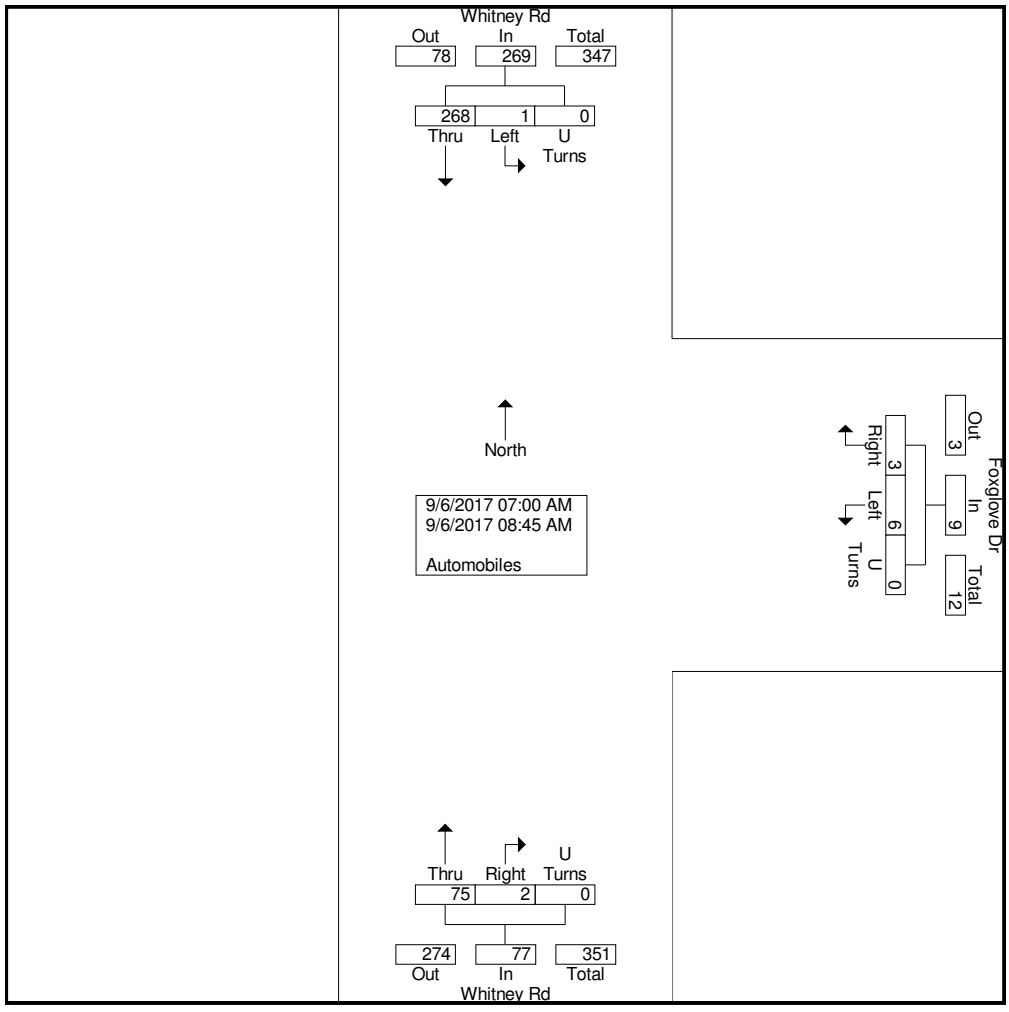
	Foxglove Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
07:00 AM	0	0	0	0	5	1	0	6	0	57	0	57	63
07:15 AM	2	0	0	2	8	0	0	8	0	49	0	49	59
07:30 AM	0	0	0	0	11	0	0	11	0	48	0	48	59
07:45 AM	2	1	0	3	9	1	0	10	1	33	0	34	47
Total	4	1	0	5	33	2	0	35	1	187	0	188	228
08:00 AM	0	0	0	0	5	0	0	5	0	27	0	27	32
08:15 AM	0	0	0	0	12	0	0	12	0	20	0	20	32
08:30 AM	2	2	0	4	17	0	0	17	0	18	0	18	39
08:45 AM	0	0	0	0	8	0	0	8	0	16	0	16	24
Total	2	2	0	4	42	0	0	42	0	81	0	81	127
Grand Total	6	3	0	9	75	2	0	77	1	268	0	269	355
Apprch %	66.7	33.3	0		97.4	2.6	0		0.4	99.6	0		
Total %	1.7	0.8	0	2.5	21.1	0.6	0	21.7	0.3	75.5	0	75.8	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Foxglove Dr and Whitney Rd

File Name : Foxglove and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



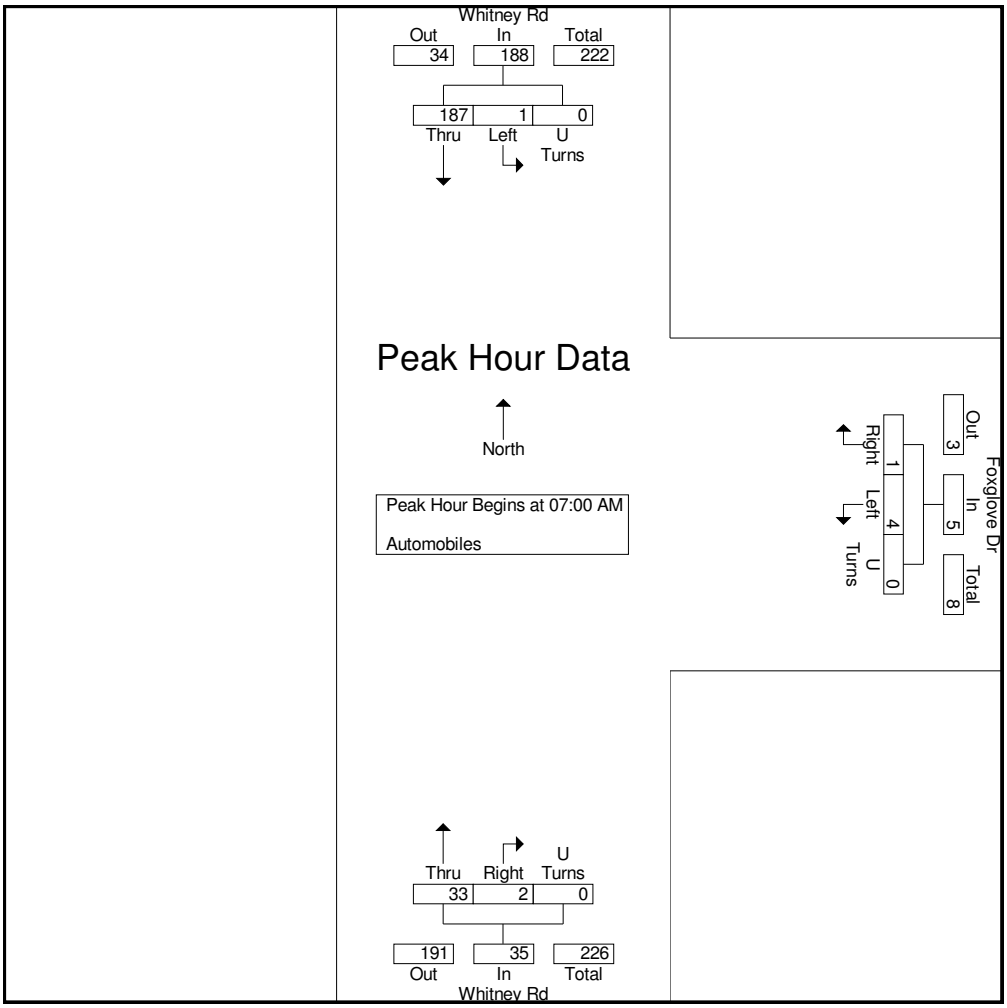
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
AM Peak
Foxglove Dr and Whitney Rd

File Name : Foxglove and Whitney AM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Foxglove Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	0	0	0	5	1	0	6	0	57	0	57	63
07:15 AM	2	0	0	2	8	0	0	8	0	49	0	49	59
07:30 AM	0	0	0	0	11	0	0	11	0	48	0	48	59
07:45 AM	2	1	0	3	9	1	0	10	1	33	0	34	47
Total Volume	4	1	0	5	33	2	0	35	1	187	0	188	228
% App. Total	80	20	0		94.3	5.7	0		0.5	99.5	0		
PHF	.500	.250	.000	.417	.750	.500	.000	.795	.250	.820	.000	.825	.905



RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Foxglove Dr and Whitney Rd

File Name : Foxglove and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 1

Groups Printed- Automobiles

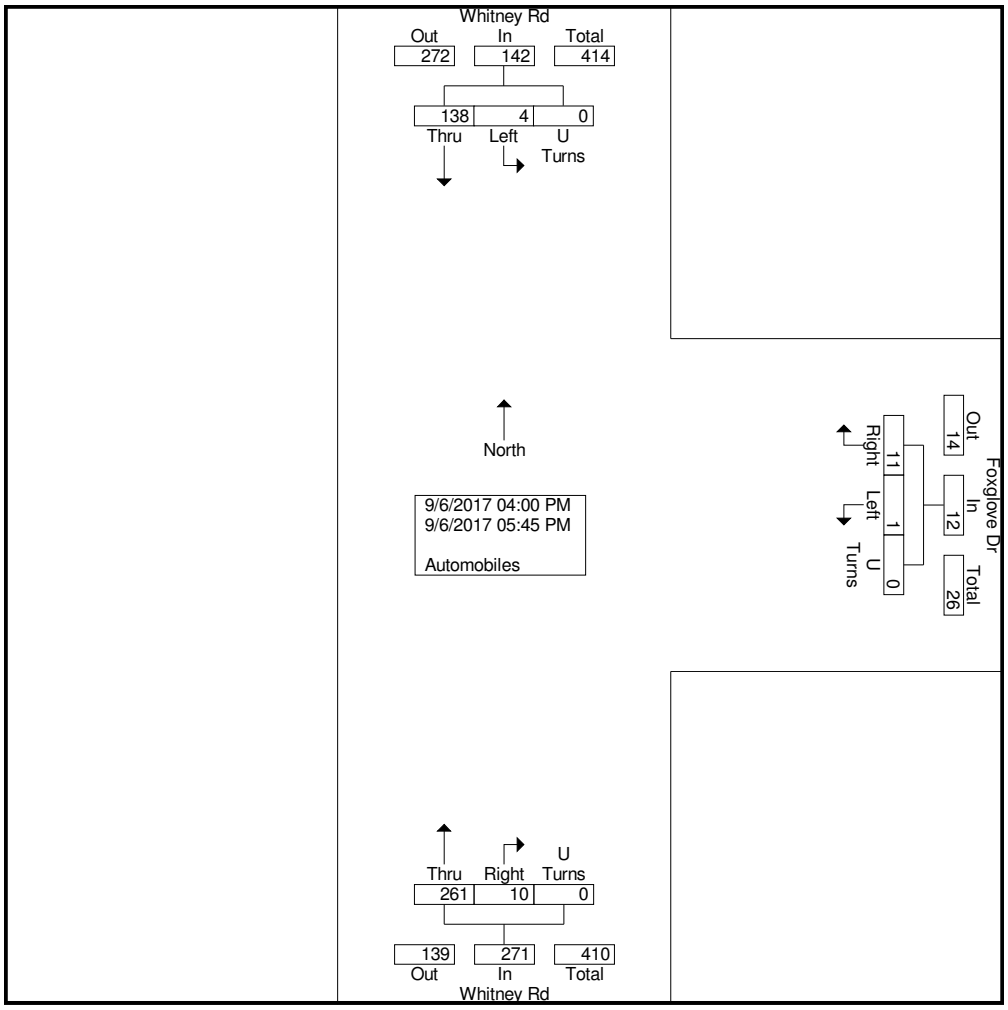
	Foxglove Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
04:00 PM	0	0	0	0	30	1	0	31	1	13	0	14	45
04:15 PM	0	2	0	2	31	1	0	32	0	12	0	12	46
04:30 PM	1	4	0	5	28	5	0	33	0	21	0	21	59
04:45 PM	0	1	0	1	30	1	0	31	1	18	0	19	51
Total	1	7	0	8	119	8	0	127	2	64	0	66	201
05:00 PM	0	1	0	1	35	0	0	35	0	29	0	29	65
05:15 PM	0	2	0	2	41	0	0	41	2	17	0	19	62
05:30 PM	0	0	0	0	36	0	0	36	0	15	0	15	51
05:45 PM	0	1	0	1	30	2	0	32	0	13	0	13	46
Total	0	4	0	4	142	2	0	144	2	74	0	76	224
Grand Total	1	11	0	12	261	10	0	271	4	138	0	142	425
Apprch %	8.3	91.7	0		96.3	3.7	0		2.8	97.2	0		
Total %	0.2	2.6	0	2.8	61.4	2.4	0	63.8	0.9	32.5	0	33.4	

RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Foxglove Dr and Whitney Rd

File Name : Foxglove and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 2



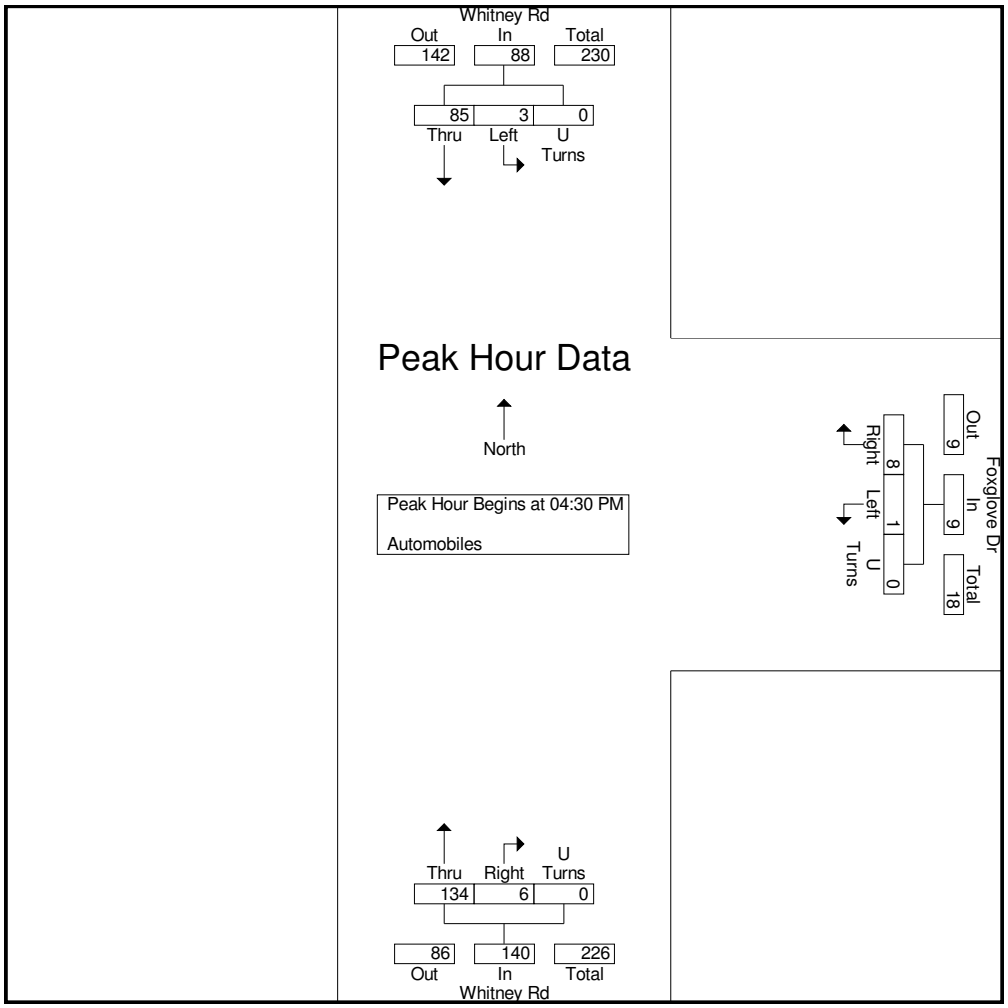
RDC
Ridgeview Data Collection

Morrison, CO 80465

Cheyenne, WY
Whitney Ranch
PM Peak
Foxglove Dr and Whitney Rd

File Name : Foxglove and Whitney PM
Site Code : IPO 262
Start Date : 9/6/2017
Page No : 3

	Foxglove Dr Westbound				Whitney Rd Northbound				Whitney Rd Southbound				
Start Time	Left	Right	U Turns	App. Total	Thru	Right	U Turns	App. Total	Left	Thru	U Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	1	4	0	5	28	5	0	33	0	21	0	21	59
04:45 PM	0	1	0	1	30	1	0	31	1	18	0	19	51
05:00 PM	0	1	0	1	35	0	0	35	0	29	0	29	65
05:15 PM	0	2	0	2	41	0	0	41	2	17	0	19	62
Total Volume	1	8	0	9	134	6	0	140	3	85	0	88	237
% App. Total	11.1	88.9	0		95.7	4.3	0		3.4	96.6	0		
PHF	.250	.500	.000	.450	.817	.300	.000	.854	.375	.733	.000	.759	.912



APPENDIX B

City of Cheyenne Transportation Plan Traffic Growth

Shape

Introduction

The shape section of the *Transportation Plan* outlines a transportation vision for the Cheyenne Area. The Transportation Vision defines the roadway, transit, bicycle, and pedestrian facilities that will be needed to provide Cheyenne Area residents with an adequate, connected, multimodal transportation system.

The *Transportation Plan* is based on information available at the time it was created, including other sections of *PlanCheyenne*. It includes enhancements to reflect the myriad of plans conducted since the Plan was first adopted in 2006. As future plans, documents, and studies are developed, these studies may amend the *Transportation Plan*. It is also anticipated that large tracts of property could develop their own master development plan. As part of the master development plan process, transportation elements of *PlanCheyenne* may be considered for amendment, provided that the transportation elements will continue to meet the principles, policies, and process described in *PlanCheyenne*. Furthermore, priorities presented in this plan may change in the future as development occurs.

Principles and Policies

Creation of a robust and effective transportation system in Cheyenne requires a vision of the type of transportation system the area desires. *PlanCheyenne* lays out seven Foundations, one of which speaks directly to transportation. The Cheyenne Area will continue to celebrate and enhance the character, quality, and authenticity of the community by developing a connected and diverse transportation system. To guide this vision, a set of principles and policies was developed. These principles reflect a vision of the character of Cheyenne's future transportation system. The associated policies present a way to implement this vision.

Growth in the Region

The first step in the definition of a Transportation Vision is to identify the growth that is expected to take place in and around Cheyenne. Growth forecasts were generated for 2040 and beyond based on the Future Land Use Plan. Once growth has been quantified, future needs can be assessed.

Needs Assessment

After growth forecasts have been developed, the next step in developing a Transportation Vision is to identify needs that will arise as the region grows. These needs include roadway needs, transit needs, and needs for non-motorized transportation. Understanding the needs that the community will face allows planners to propose solutions that will fill these needs.

Vision Plans – 2040 and Beyond

The 2040 Transportation Vision is a fiscally unconstrained plan for the transportation system in the Cheyenne area. This plan provides sufficient capacity to accommodate growth on most roadways and includes new roadways, sidewalks, and bike lanes in developing areas. Recommendations for retrofitting existing roads with sidewalks and bike lanes are also provided. The 2040 Vision Plan is based on a growth assumption of 1.25% per year.

The Buildout Transportation Vision Plan compliments the buildout of the Future Land Use Plan, but is not likely to occur until sometime after 2060. The buildout plan designates roadways and multimodal corridors that should be preserved for future use.

APPENDIX C

Trip Generation Calculations

Whitney Ranch Trip Generation Summary

Land Use	Quantity	Units	Daily	AM			PM		
				In	**Out**	**Total**	**In**	**Out**	**Total**
Single-Family Detached Housing (210)	1,293	Units	11,066	229	686	915	663	389	1,052
Condominium/Townhouse (230)	913	Units	4,406	52	251	303	247	122	369
Shopping Center (820)	567,325	SF	10,493	278	171	449	920	997	1917
Elementary School (520)	700	Students	904	174	142	316	53	53	106
Total			26,869	733	1,250	1,983	1,883	1,561	3,444

Phase 1 Trip Generation

Land Use	Quantity	Units	Daily	AM			PM		
				In	**Out**	**Total**	**In**	**Out**	**Total**
Single-Family Detached Housing (210)	232	Units	2,278	43	129	172	141	83	224
Condominium/Townhouse (230)	24	Units	186	3	13	16	13	6	19
Total			2,464	46	142	188	154	89	243

Kimley»Horn

Project	Whitney Ranch				
Subject	Trip Generation for Single-Family Detached Housing				
Designed by	Jeff Planck	*Date*	September 21, 2017	*Job No.*	096567001
Checked by		*Date*		*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independant Variable - Dwelling Units (X)

X = 1,293
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (page 297)

Average Weekday
(T) = 0.70 (X) + 9.74
(T) = 0.70 * (1293) + 9.94

Directional Distribution: 25% ent. 75% exit.
T = 915 Average Vehicle Trip Ends
229 entering 686 exiting

229 + 686 = 915

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (page 298)

Average Weekday
Ln(T) = 0.90 Ln(X) + 0.51
Ln(T) = 0.90 * Ln(1293) + 0.51

Directional Distribution: 63% ent. 37% exit.
T = 1052 Average Vehicle Trip Ends
663 entering 389 exiting

663 + 389 = 1052

Peak Hour of Generator, Saturday (page 302)

Average Saturday
(T) = 0.89 (X) + 8.77
(T) = 0.89 * (1293) + 8.77

Directional Distribution: 53% ent. 47% exit.
T = 1160 Average Vehicle Trip Ends
615 entering 545 exiting

615 + 545 = 1160

Weekday (page 296)

Average Weekday
Ln(T) = 0.92 Ln(X) + 2.72
Ln(T) = 0.92 * Ln(1293) + 2.72

Directional Distribution: 50% entering, 50% exiting
T = 11066 Average Vehicle Trip Ends
5533 entering 5533 exiting

5533 + 5533 = 11066

Kimley»Horn

Project	Whitney Ranch				
Subject	Trip Generation for Residential Condominium/Townhouse				
Designed by	Jeff Planck	*Date*	September 21, 2017	*Job No.*	096567001
Checked by		*Date*		*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Fitted Curve Equations

Land Use Code - Residential Condominium/Townhouse (230)

Independant Variable - Dwelling Units (X)

X = 913
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (page 395)

Ln(T) = 0.80 Ln(X) + 0.26
Ln(T) = 0.80 * Ln(913.0) + 0.26

Directional Distribution: 17% ent. 83% exit.
T = 303 Average Vehicle Trip Ends
52 entering 251 exiting

52 + 251 = 303

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (page 396)

Ln(T) = 0.82 Ln(X) + 0.32
Ln(T) = 0.82 * Ln(913.0) + 0.32

Directional Distribution: 67% ent. 33% exit.
T = 369 Average Vehicle Trip Ends
247 entering 122 exiting

247 + 122 = 369

Weekday (page 394)

Average Weekday
Ln(T) = 0.87 Ln(X) + 2.46
Ln(T) = 0.87 * Ln(913.0) + 2.46

Directional Distribution: 50% entering, 50% exiting
T = 4406 Average Vehicle Trip Ends
2203 entering 2203 exiting

2203 + 2203 = 4406

Weekday Midday Peak Uses Saturday Peak Hour of Generator (page 400)

(T) = 0.29*(X) + 42.63
(T) = 0.29 * 913 + 42.63

Directional Distribution: 54% ent. 46% exit.
T = 307 Average Vehicle Trip Ends
166 entering 141 exiting

166 + 141 = 307

Kimley»Horn

Project	Whitney Ranch				
Subject	Trip Generation for Shopping Center				
Designed by	Jeff Planck	*Date*	September 21, 2017	*Job No.*	096567001
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Fitted Curve Equations
Land Use Code - Shopping Center (820)
Independant Variable - 1000 Square Feet Gross Leasable Area (X)
Gross Leasable Area = 567,325 Square Feet
X = 567.325
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Page 1562)

Directional Distribution: 62% ent. 38% exit.
Ln(T) = 0.61 Ln(X) + 2.24 T = 449 Average Vehicle Trip Ends
Ln(T) = 0.61 * Ln(567) + 2.24 278 entering 171 exiting

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (page 1563)

Directional Distribution: 48% ent. 52% exit.
Ln(T) = 0.67 Ln(X) + 3.31 T = 1917 Average Vehicle Trip Ends
Ln(T) = 0.67 * Ln(567) + 3.31 920 entering 997 exiting

Weekday (page 1561)

Daily Weekday Directional Distribution: 50% entering, 50% exiting
Ln(T) = 0.65 Ln(X) + 5.83 T = 20986 Average Vehicle Trip Ends
Ln(T) = 0.65 * Ln(567) + 5.83 10493 entering 10493 exiting

Saturday Peak Hour of Generator

Average Saturday Directional Distribution: 52% ent. 48% exit.
Ln(T) = 0.65 Ln(X) + 3.78 T = 2702 Average Vehicle Trip Ends
Ln(T) = 0.65 * Ln(567) + 3.78 1405 entering 1297 exiting

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, June 2004)

PM Peak Hour = 34% Pass-by Saturday Peak Hour = 26% Pass-by

	IN	Out	Total	
AM Peak	206	127	333	*uses lesser of PM and Saturday pass-by rates (26%)
PM Peak	607	658	1265	
Daily	6925	6925	13850	*uses PM peak hour pass-by rate
Saturday Peak	1040	960	2000	

Kimley-Horn and Associates, Inc.

Project	Whitney Ranch				
Subject	Trip Generation for Elementary School				
Designed by	Jeff Planck	*Date*	September 21, 2017	*Job No.*	096567001
Checked by		*Date*		*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Average Rate Equations

Land Use Code - Elementary School (520)

Independant Variable - Students (X)

Students = 700

X = 700.0

T = Average Vehicle Trip Ends

Weekday (page 979)

Average Weekday

(T) = 1.29 (X)

(T) = 1.29 * (700.0)

Directional Distribution: 50% entering, 50% exiting

T = 904 Average Vehicle Trip Ends

452 entering 452 exiting

452 + 452 = 904

AM Peak Hour (page 980)

(T) = 0.45 (X)

(T) = 0.45 * (700.0)

Directional Distribution: 55% entering, 45% exiting

T = 316 Average Vehicle Trip Ends

173.8 entering 142.2 exiting

174 + 142 = 316

PM Peak Hour of Generator (page 982)

(T) = 0.28 (X)

(T) = 0.28 * (700.0)

Directional Distribution: 45% entering, 55% exiting

T = 196 Average Vehicle Trip Ends

88.2 entering 107.8 exiting

88 + 108 = 196

PM Peak Hour of Adjacent Street Traffic 4pm to 6pm (page 981)

(T) = 0.15 (X)

(T) = 0.15 * (700.0)

Directional Distribution: 49% entering, 51% exiting

T = 106 Average Vehicle Trip Ends

53 entering 53 exiting

53 + 53 = 106

###

Kimley»Horn

Project	Whitney Ranch - Phase 1				
Subject	Trip Generation for Single-Family Detached Housing (Phase 1)				
Designed by	Jeff Planck	*Date*	September 21, 2017	*Job No.*	096567001
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independant Variable - Dwelling Units (X)

X = 232
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (page 297)

Average Weekday
(T) = 0.70 (X) + 9.74
(T) = 0.70 * (232) + 9.94

Directional Distribution: 25% ent. 75% exit.
T = 172 Average Vehicle Trip Ends
43 entering 129 exiting

43 + 129 = 172

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (page 298)

Average Weekday
Ln(T) = 0.90 Ln(X) + 0.51
Ln(T) = 0.90 * Ln(232) + 0.51

Directional Distribution: 63% ent. 37% exit.
T = 224 Average Vehicle Trip Ends
141 entering 83 exiting

141 + 83 = 224

Peak Hour of Generator, Saturday (page 302)

Average Saturday
(T) = 0.89 (X) + 8.77
(T) = 0.89 * (232) + 8.77

Directional Distribution: 53% ent. 47% exit.
T = 215 Average Vehicle Trip Ends
114 entering 101 exiting

114 + 101 = 215

Weekday (page 296)

Average Weekday
Ln(T) = 0.92 Ln(X) + 2.72
Ln(T) = 0.92 * Ln(232) + 2.72

Directional Distribution: 50% entering, 50% exiting
T = 2278 Average Vehicle Trip Ends
1139 entering 1139 exiting

1139 + 1139 = 2278

Kimley»Horn

Project	Whitney Ranch				
Subject	Trip Generation for Residential Condominium/Townhouse				
Designed by	Jeff Planck	*Date*	September 21, 2017	*Job No.*	096567001
Checked by		*Date*		*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 9th Edition, Fitted Curve Equations

Land Use Code - Residential Condominium/Townhouse (230)

Independant Variable - Dwelling Units (X)

X = 24
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (page 395)

Ln(T) = 0.80 Ln(X) + 0.26
Ln(T) = 0.80 * Ln(24.0) + 0.26

Directional Distribution: 17% ent. 83% exit.
T = 16 Average Vehicle Trip Ends
3 entering 13 exiting

3 + 13 = 16

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (page 396)

Ln(T) = 0.82 Ln(X) + 0.32
Ln(T) = 0.82 * Ln(24.0) + 0.32

Directional Distribution: 67% ent. 33% exit.
T = 19 Average Vehicle Trip Ends
13 entering 6 exiting

13 + 6 = 19

Weekday (page 394)

Average Weekday
Ln(T) = 0.87 Ln(X) + 2.46
Ln(T) = 0.87 * Ln(24.0) + 2.46

Directional Distribution: 50% entering, 50% exiting
T = 186 Average Vehicle Trip Ends
93 entering 93 exiting

93 + 93 = 186

Weekday Midday Peak Uses Saturday Peak Hour of Generator (page 400)

(T) = 0.29*(X) + 42.63
(T) = 0.29 * 24 + 42.63

Directional Distribution: 54% ent. 46% exit.
T = 50 Average Vehicle Trip Ends
27 entering 23 exiting

27 + 23 = 50

APPENDIX D

Intersection Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	261	67	41	528	144	84	210	43	125	199	113
Future Volume (veh/h)	33	261	67	41	528	144	84	210	43	125	199	113
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	48	281	0	52	636	203	131	262	56	144	219	140
Adj No. of Lanes	1	2	1	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.69	0.93	0.64	0.79	0.83	0.71	0.64	0.80	0.77	0.87	0.91	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	1156	517	516	867	277	342	387	329	319	399	340
Arrive On Green	0.04	0.39	0.00	0.01	0.13	0.13	0.07	0.25	0.25	0.08	0.25	0.25
Sat Flow, veh/h	1494	2980	1333	1494	2224	709	1494	1569	1333	1494	1569	1333
Grp Volume(v), veh/h	48	281	0	52	426	413	131	262	56	144	219	140
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1443	1494	1569	1333	1494	1569	1333
Q Serve(g_s), s	1.4	4.8	0.0	1.5	20.6	20.7	4.9	11.3	2.5	5.4	9.1	6.6
Cycle Q Clear(g_c), s	1.4	4.8	0.0	1.5	20.6	20.7	4.9	11.3	2.5	5.4	9.1	6.6
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	1156	517	516	581	563	342	387	329	319	399	340
V/C Ratio(X)	0.21	0.24	0.00	0.10	0.73	0.73	0.38	0.68	0.17	0.45	0.55	0.41
Avail Cap(c_a), veh/h	272	1156	517	552	581	563	342	387	329	319	399	340
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	15.5	0.0	13.1	28.9	28.9	19.6	25.5	22.2	19.7	24.2	23.3
Incr Delay (d2), s/veh	0.4	0.5	0.0	0.1	5.0	5.2	0.7	9.2	1.1	1.0	5.3	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.0	0.0	0.6	9.3	9.1	2.1	5.9	1.0	2.3	4.5	2.8
LnGrp Delay(d),s/veh	16.0	16.0	0.0	13.1	33.9	34.1	20.3	34.7	23.3	20.7	29.5	26.9
LnGrp LOS	B	B		B	C	C	C	C	C	C	C	C
Approach Vol, veh/h		329			891			449			503	
Approach Delay, s/veh		16.0			32.8			29.1			26.3	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	23.0	7.8	33.6	10.0	23.6	7.7	33.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.1	18.5	5.1	27.3	5.5	19.1	5.1	27.3
Max Q Clear Time (g_c+I1), s	7.4	13.3	3.5	6.8	6.9	11.1	3.4	22.7
Green Ext Time (p_c), s	0.0	1.7	0.0	7.6	0.0	2.3	0.0	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	28.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	711	169	75	582	137	137	292	100	84	212	86
Future Volume (veh/h)	84	711	169	75	582	137	137	292	100	84	212	86
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	95	726	0	100	626	171	165	395	123	100	252	108
Adj No. of Lanes	1	2	1	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.88	0.98	0.88	0.75	0.93	0.80	0.83	0.74	0.81	0.84	0.84	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	990	443	272	775	211	366	475	404	251	462	393
Arrive On Green	0.06	0.33	0.00	0.02	0.11	0.11	0.07	0.30	0.30	0.06	0.29	0.29
Sat Flow, veh/h	1494	2980	1333	1494	2316	632	1494	1569	1333	1494	1569	1333
Grp Volume(v), veh/h	95	726	0	100	403	394	165	395	123	100	252	108
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1457	1494	1569	1333	1494	1569	1333
Q Serve(g_s), s	3.1	16.1	0.0	3.3	19.8	19.8	5.4	17.6	5.3	3.5	10.1	4.7
Cycle Q Clear(g_c), s	3.1	16.1	0.0	3.3	19.8	19.8	5.4	17.6	5.3	3.5	10.1	4.7
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	990	443	272	499	488	366	475	404	251	462	393
V/C Ratio(X)	0.41	0.73	0.00	0.37	0.81	0.81	0.45	0.83	0.30	0.40	0.55	0.27
Avail Cap(c_a), veh/h	245	990	443	280	499	488	366	475	404	256	462	393
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.58	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	22.1	0.0	17.6	31.0	31.0	18.4	24.3	20.1	18.7	22.2	20.3
Incr Delay (d2), s/veh	1.2	4.8	0.0	0.5	8.1	8.3	0.9	15.5	1.9	1.0	4.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	7.2	0.0	1.3	9.3	9.1	0.8	9.6	2.2	1.5	4.9	1.9
LnGrp Delay(d),s/veh	19.0	26.9	0.0	18.0	39.1	39.3	19.2	39.8	22.0	19.7	26.8	22.0
LnGrp LOS	B	C		B	D	D	B	D	C	B	C	C
Approach Vol, veh/h		821			897			683			460	
Approach Delay, s/veh		26.0			36.8			31.6			24.1	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	27.2	9.1	29.4	9.9	26.6	8.9	29.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	22.5	5.0	24.5	5.4	22.1	5.1	24.4
Max Q Clear Time (g_c+I1), s	5.5	19.6	5.3	18.1	7.4	12.1	5.1	21.8
Green Ext Time (p_c), s	0.0	1.4	0.0	4.5	0.0	3.5	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	30.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	278	71	44	562	153	89	223	46	133	212	120
Future Volume (veh/h)	35	278	71	44	562	153	89	223	46	133	212	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	51	299	0	56	677	215	139	279	60	153	233	148
Adj No. of Lanes	1	2	1	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.69	0.93	0.64	0.79	0.83	0.71	0.64	0.80	0.77	0.87	0.91	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	1048	469	431	786	250	426	541	460	408	550	468
Arrive On Green	0.04	0.35	0.00	0.01	0.12	0.12	0.08	0.34	0.34	0.08	0.35	0.35
Sat Flow, veh/h	1494	2980	1333	1494	2227	707	1494	1569	1333	1494	1569	1333
Grp Volume(v), veh/h	51	299	0	56	453	439	139	279	60	153	233	148
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1444	1494	1569	1333	1494	1569	1333
Q Serve(g_s), s	2.2	7.2	0.0	2.4	29.8	29.9	5.9	14.2	3.1	6.5	11.3	8.1
Cycle Q Clear(g_c), s	2.2	7.2	0.0	2.4	29.8	29.9	5.9	14.2	3.1	6.5	11.3	8.1
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	162	1048	469	431	526	510	426	541	460	408	550	468
V/C Ratio(X)	0.31	0.29	0.00	0.13	0.86	0.86	0.33	0.52	0.13	0.37	0.42	0.32
Avail Cap(c_a), veh/h	188	1124	503	452	559	541	463	541	460	424	550	468
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.42	0.42	0.42	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	23.4	0.0	20.1	41.8	41.8	19.0	26.1	22.5	19.3	24.8	23.7
Incr Delay (d2), s/veh	1.1	0.1	0.0	0.1	5.7	5.9	0.4	3.5	0.6	0.6	2.4	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.0	0.0	1.0	13.2	12.8	2.5	6.6	1.2	2.7	5.3	3.2
LnGrp Delay(d),s/veh	25.2	23.5	0.0	20.1	47.5	47.7	19.5	29.6	23.1	19.9	27.1	25.5
LnGrp LOS	C	C		C	D	D	B	C	C	B	C	C
Approach Vol, veh/h		350			948			478			534	
Approach Delay, s/veh		23.8			46.0			25.8			24.6	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	39.0	8.4	39.7	12.3	39.6	8.3	39.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	29.5	5.3	37.7	10.3	28.7	5.5	37.5
Max Q Clear Time (g_c+I1), s	8.5	16.2	4.4	9.2	7.9	13.3	4.2	31.9
Green Ext Time (p_c), s	0.0	3.2	0.0	9.3	0.1	3.4	0.0	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	33.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	757	180	80	619	146	146	311	106	89	226	92
Future Volume (veh/h)	89	757	180	80	619	146	146	311	106	89	226	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	101	772	0	107	666	182	176	420	131	106	269	115
Adj No. of Lanes	1	2	1	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.88	0.98	0.88	0.75	0.93	0.80	0.83	0.74	0.81	0.84	0.84	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	976	436	224	754	206	414	594	505	283	534	453
Arrive On Green	0.06	0.33	0.00	0.06	0.33	0.33	0.09	0.38	0.38	0.05	0.34	0.34
Sat Flow, veh/h	1494	2980	1333	1494	2315	632	1494	1569	1333	1494	1569	1333
Grp Volume(v), veh/h	101	772	0	107	429	419	176	420	131	106	269	115
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1457	1494	1569	1333	1494	1569	1333
Q Serve(g_s), s	4.4	23.5	0.0	4.7	27.2	27.3	7.4	22.7	6.8	4.6	13.7	6.2
Cycle Q Clear(g_c), s	4.4	23.5	0.0	4.7	27.2	27.3	7.4	22.7	6.8	4.6	13.7	6.2
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	197	976	436	224	485	474	414	594	505	283	534	453
V/C Ratio(X)	0.51	0.79	0.00	0.48	0.88	0.88	0.42	0.71	0.26	0.37	0.50	0.25
Avail Cap(c_a), veh/h	212	1034	463	224	499	488	428	594	505	283	534	453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.52	0.52	0.52	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	30.5	0.0	23.6	31.9	31.9	18.7	26.4	21.4	21.7	26.3	23.8
Incr Delay (d2), s/veh	2.1	4.0	0.0	0.8	9.6	9.9	0.7	6.9	1.2	0.8	3.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.2	0.0	2.0	12.5	12.3	3.1	10.9	2.7	1.9	6.4	2.5
LnGrp Delay(d),s/veh	26.7	34.6	0.0	24.4	41.5	41.8	19.4	33.3	22.7	22.5	29.7	25.2
LnGrp LOS	C	C		C	D	D	B	C	C	C	C	C
Approach Vol, veh/h		873			955			727			490	
Approach Delay, s/veh		33.7			39.7			28.0			27.1	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	42.4	10.4	37.2	13.9	38.5	10.6	37.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	35.9	5.9	34.7	10.3	31.1	7.1	33.5
Max Q Clear Time (g_c+I1), s	6.6	24.7	6.7	25.5	9.4	15.7	6.4	29.3
Green Ext Time (p_c), s	0.0	4.0	0.0	6.4	0.0	4.7	0.0	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	33.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	290	71	65	598	160	89	223	53	135	212	120
Future Volume (veh/h)	35	290	71	65	598	160	89	223	53	135	212	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	51	312	0	82	720	225	139	279	69	155	233	148
Adj No. of Lanes	1	2	1	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.69	0.93	0.64	0.79	0.83	0.71	0.64	0.80	0.77	0.87	0.91	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	1268	567	521	969	303	335	400	340	309	413	351
Arrive On Green	0.04	0.43	0.00	0.03	0.29	0.29	0.09	0.26	0.26	0.09	0.26	0.26
Sat Flow, veh/h	1494	2980	1333	1494	2237	699	1494	1569	1333	1494	1569	1333
Grp Volume(v), veh/h	51	312	0	82	480	465	139	279	69	155	233	148
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1445	1494	1569	1333	1494	1569	1333
Q Serve(g_s), s	1.9	6.7	0.0	3.1	29.1	29.1	6.8	16.1	4.1	7.5	12.9	9.2
Cycle Q Clear(g_c), s	1.9	6.7	0.0	3.1	29.1	29.1	6.8	16.1	4.1	7.5	12.9	9.2
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	1268	567	521	645	626	335	400	340	309	413	351
V/C Ratio(X)	0.24	0.25	0.00	0.16	0.74	0.74	0.42	0.70	0.20	0.50	0.56	0.42
Avail Cap(c_a), veh/h	238	1268	567	548	645	626	345	400	340	310	413	351
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.52	0.52	0.52	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	18.4	0.0	15.3	30.5	30.5	24.8	33.8	29.3	25.2	31.9	30.5
Incr Delay (d2), s/veh	0.6	0.5	0.0	0.1	4.1	4.2	0.8	9.7	1.3	1.3	5.5	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.9	0.0	1.3	12.7	12.4	2.9	8.1	1.6	3.2	6.2	3.8
LnGrp Delay(d),s/veh	19.9	18.9	0.0	15.4	34.5	34.7	25.6	43.4	30.6	26.4	37.4	34.2
LnGrp LOS	B	B		B	C	C	C	D	C	C	D	C
Approach Vol, veh/h		363			1027			487			536	
Approach Delay, s/veh		19.0			33.1			36.5			33.3	
Approach LOS		B			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	30.0	9.1	47.0	13.1	30.8	8.3	47.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	25.5	6.4	40.6	9.3	25.7	5.5	41.5
Max Q Clear Time (g_c+I1), s	9.5	18.1	5.1	8.7	8.8	14.9	3.9	31.1
Green Ext Time (p_c), s	0.0	2.3	0.0	10.4	0.0	2.9	0.0	5.8

Intersection Summary	
HCM 2010 Ctrl Delay	31.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	796	180	93	641	150	146	311	129	97	226	92
Future Volume (veh/h)	89	796	180	93	641	150	146	311	129	97	226	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	101	812	0	124	689	188	176	420	159	115	269	115
Adj No. of Lanes	1	2	1	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.88	0.98	0.88	0.75	0.93	0.80	0.83	0.74	0.81	0.84	0.84	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	1076	481	256	860	235	362	525	447	231	463	393
Arrive On Green	0.06	0.36	0.00	0.02	0.12	0.12	0.09	0.34	0.34	0.05	0.29	0.29
Sat Flow, veh/h	1494	2980	1333	1494	2316	632	1494	1569	1333	1494	1569	1333
Grp Volume(v), veh/h	101	812	0	124	443	434	176	420	159	115	269	115
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1457	1494	1569	1333	1494	1569	1333
Q Serve(g_s), s	4.2	23.9	0.0	5.1	28.9	29.0	7.9	24.3	9.0	5.4	14.6	6.7
Cycle Q Clear(g_c), s	4.2	23.9	0.0	5.1	28.9	29.0	7.9	24.3	9.0	5.4	14.6	6.7
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	1076	481	256	554	541	362	525	447	231	463	393
V/C Ratio(X)	0.48	0.75	0.00	0.48	0.80	0.80	0.49	0.80	0.36	0.50	0.58	0.29
Avail Cap(c_a), veh/h	227	1076	481	266	554	541	362	525	447	231	463	393
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.53	0.53	0.53	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	28.1	0.0	22.3	40.3	40.3	21.6	30.2	25.1	25.3	30.0	27.2
Incr Delay (d2), s/veh	1.7	4.9	0.0	0.8	6.5	6.6	1.0	12.0	2.2	1.7	5.3	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	10.5	0.0	2.1	13.0	12.7	3.3	12.3	3.6	2.3	7.0	2.6
LnGrp Delay(d),s/veh	24.4	33.0	0.0	23.1	46.7	46.9	22.6	42.2	27.3	26.9	35.2	29.1
LnGrp LOS	C	C		C	D	D	C	D	C	C	D	C
Approach Vol, veh/h		913			1001			755			499	
Approach Delay, s/veh		32.0			43.9			34.5			31.9	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	38.0	11.4	40.6	14.0	34.0	10.3	41.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	33.5	7.5	35.5	9.5	29.5	6.9	36.1
Max Q Clear Time (g_c+I1), s	7.4	26.3	7.1	25.9	9.9	16.6	6.2	31.0
Green Ext Time (p_c), s	0.0	3.1	0.0	6.8	0.0	4.4	0.0	4.0

Intersection Summary	
HCM 2010 Ctrl Delay	36.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	347	89	55	703	192	112	279	57	166	265	150
Future Volume (veh/h)	44	347	89	55	703	192	112	279	57	166	265	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	48	377	0	60	764	209	122	303	62	180	288	163
Adj No. of Lanes	1	2	1	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	1250	559	469	979	268	293	401	341	306	478	407
Arrive On Green	0.04	0.42	0.00	0.03	0.28	0.28	0.05	0.26	0.26	0.10	0.31	0.31
Sat Flow, veh/h	1494	2980	1333	1494	2314	633	1494	1569	1333	1494	1569	1333
Grp Volume(v), veh/h	48	377	0	60	492	481	122	303	62	180	288	163
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1457	1494	1569	1333	1494	1569	1333
Q Serve(g_s), s	1.8	8.4	0.0	2.3	30.4	30.4	5.5	17.8	3.6	8.5	15.6	9.7
Cycle Q Clear(g_c), s	1.8	8.4	0.0	2.3	30.4	30.4	5.5	17.8	3.6	8.5	15.6	9.7
Prop In Lane	1.00		1.00	1.00		0.43	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	1250	559	469	631	617	293	401	341	306	478	407
V/C Ratio(X)	0.25	0.30	0.00	0.13	0.78	0.78	0.42	0.76	0.18	0.59	0.60	0.40
Avail Cap(c_a), veh/h	217	1250	559	487	631	617	293	401	341	307	478	407
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.41	0.41	0.41	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	19.3	0.0	15.8	31.5	31.5	27.4	34.3	29.0	24.2	29.6	27.5
Incr Delay (d2), s/veh	0.6	0.6	0.0	0.0	4.0	4.1	0.9	12.4	1.2	2.9	5.5	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.6	0.0	0.9	13.2	12.9	0.8	9.1	1.4	3.7	7.5	3.9
LnGrp Delay(d),s/veh	20.8	19.9	0.0	15.8	35.5	35.6	28.4	46.8	30.2	27.1	35.1	30.4
LnGrp LOS	C	B		B	D	D	C	D	C	C	D	C
Approach Vol, veh/h		425			1033			487			631	
Approach Delay, s/veh		20.0			34.4			40.0			31.6	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	30.1	8.6	46.4	10.0	35.0	8.2	46.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	25.5	5.3	40.7	5.5	30.5	5.1	40.9
Max Q Clear Time (g_c+I1), s	10.5	19.8	4.3	10.4	7.5	17.6	3.8	32.4
Green Ext Time (p_c), s	0.0	2.2	0.0	11.1	0.0	3.7	0.0	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	32.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	946	225	100	774	182	182	389	133	112	282	114
Future Volume (veh/h)	112	946	225	100	774	182	182	389	133	112	282	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	122	1028	0	109	841	198	198	423	145	122	307	124
Adj No. of Lanes	1	2	1	1	2	0	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	1261	564	213	981	231	276	463	393	177	409	348
Arrive On Green	0.06	0.42	0.00	0.03	0.27	0.27	0.09	0.29	0.29	0.05	0.26	0.26
Sat Flow, veh/h	1494	2980	1333	1494	2395	564	1494	1569	1333	1494	1569	1333
Grp Volume(v), veh/h	122	1028	0	109	523	516	198	423	145	122	307	124
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1469	1494	1569	1333	1494	1569	1333
Q Serve(g_s), s	4.7	30.4	0.0	4.2	33.3	33.3	8.5	26.0	8.6	5.1	18.0	7.6
Cycle Q Clear(g_c), s	4.7	30.4	0.0	4.2	33.3	33.3	8.5	26.0	8.6	5.1	18.0	7.6
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	1261	564	213	610	602	276	463	393	177	409	348
V/C Ratio(X)	0.58	0.82	0.00	0.51	0.86	0.86	0.72	0.91	0.37	0.69	0.75	0.36
Avail Cap(c_a), veh/h	210	1261	564	213	610	602	276	463	393	177	409	348
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.12	0.12	0.12	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	25.4	0.0	21.3	33.5	33.5	28.4	34.0	27.9	31.7	34.0	30.1
Incr Delay (d2), s/veh	4.0	5.9	0.0	0.2	2.0	2.1	8.6	25.1	2.6	10.6	11.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	13.5	0.0	1.7	14.1	13.9	2.5	14.5	3.5	1.8	9.1	3.1
LnGrp Delay(d),s/veh	26.2	31.3	0.0	21.6	35.5	35.6	37.0	59.1	30.5	42.3	45.9	32.9
LnGrp LOS	C	C		C	D	D	D	E	C	D	D	C
Approach Vol, veh/h		1150			1148			766			553	
Approach Delay, s/veh		30.8			34.2			48.0			42.2	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	34.0	9.6	46.8	13.0	30.6	11.0	45.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	29.5	5.1	42.3	8.5	26.1	6.5	40.9
Max Q Clear Time (g_c+I1), s	7.1	28.0	6.2	32.4	10.5	20.0	6.7	35.3
Green Ext Time (p_c), s	0.0	0.8	0.0	8.0	0.0	2.8	0.0	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	37.3
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	494	89	180	953	192	112	279	130	166	265	150
Future Volume (veh/h)	44	494	89	180	953	192	112	279	130	166	265	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	48	537	0	196	1036	209	122	303	141	180	288	163
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	1215	544	450	1380	618	251	625	280	350	400	340
Arrive On Green	0.04	0.41	0.00	0.03	0.15	0.15	0.06	0.21	0.21	0.11	0.25	0.25
Sat Flow, veh/h	1494	2980	1333	1494	2980	1333	1494	2980	1333	1494	1569	1333
Grp Volume(v), veh/h	48	537	0	196	1036	209	122	303	141	180	288	163
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1333	1494	1490	1333	1494	1569	1333
Q Serve(g_s), s	1.8	13.0	0.0	7.0	33.3	14.0	6.5	8.9	9.3	9.0	16.8	10.4
Cycle Q Clear(g_c), s	1.8	13.0	0.0	7.0	33.3	14.0	6.5	8.9	9.3	9.0	16.8	10.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	185	1215	544	450	1380	618	251	625	280	350	400	340
V/C Ratio(X)	0.26	0.44	0.00	0.44	0.75	0.34	0.49	0.48	0.50	0.51	0.72	0.48
Avail Cap(c_a), veh/h	212	1215	544	525	1380	618	251	625	280	372	400	340
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.62	0.62	0.62	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	21.4	0.0	15.7	36.8	28.7	29.5	34.8	34.9	25.5	34.0	31.6
Incr Delay (d2), s/veh	0.7	1.2	0.0	0.4	2.4	0.9	1.5	2.7	6.4	1.2	10.7	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.6	0.0	2.9	14.2	5.3	2.7	3.9	3.9	3.8	8.5	4.3
LnGrp Delay(d),s/veh	21.0	22.6	0.0	16.1	39.2	29.6	31.0	37.5	41.3	26.7	44.7	36.4
LnGrp LOS	C	C		B	D	C	C	D	D	C	D	D
Approach Vol, veh/h		585			1441			566			631	
Approach Delay, s/veh		22.4			34.7			37.0			37.4	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	25.5	13.7	45.3	11.0	30.0	8.2	50.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	19.5	14.3	35.7	6.5	25.5	5.5	44.5
Max Q Clear Time (g_c+I1), s	11.0	11.3	9.0	15.0	8.5	18.8	3.8	35.3
Green Ext Time (p_c), s	0.1	3.1	0.2	12.3	0.0	2.7	0.0	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	33.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1323	225	256	1086	182	182	389	321	112	282	114
Future Volume (veh/h)	112	1323	225	256	1086	182	182	389	321	112	282	114
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	122	1438	0	278	1180	81	198	423	153	122	307	46
Adj No. of Lanes	1	2	1	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	364	1371	613	229	1503	673	184	608	272	209	282	240
Arrive On Green	0.06	0.46	0.00	0.21	1.00	1.00	0.08	0.20	0.20	0.05	0.18	0.18
Sat Flow, veh/h	1494	2980	1333	1494	2980	1333	1494	2980	1333	1494	1569	1333
Grp Volume(v), veh/h	122	1438	0	278	1180	81	198	423	153	122	307	46
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1333	1494	1490	1333	1494	1569	1333
Q Serve(g_s), s	4.3	46.0	0.0	10.5	0.0	0.0	7.5	13.2	10.3	5.1	18.0	2.9
Cycle Q Clear(g_c), s	4.3	46.0	0.0	10.5	0.0	0.0	7.5	13.2	10.3	5.1	18.0	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	364	1371	613	229	1503	673	184	608	272	209	282	240
V/C Ratio(X)	0.34	1.05	0.00	1.21	0.78	0.12	1.08	0.70	0.56	0.59	1.09	0.19
Avail Cap(c_a), veh/h	369	1371	613	229	1503	673	184	608	272	209	282	240
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.39	0.39	0.39	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	27.0	0.0	24.8	0.0	0.0	36.8	36.9	35.8	35.5	41.0	34.8
Incr Delay (d2), s/veh	0.5	38.2	0.0	111.8	1.7	0.1	88.0	6.5	8.2	4.2	78.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	26.1	0.0	13.3	0.4	0.0	4.5	6.0	4.4	1.4	13.9	1.2
LnGrp Delay(d),s/veh	13.1	65.2	0.0	136.6	1.7	0.1	124.7	43.4	44.0	39.7	119.8	36.6
LnGrp LOS	B	F		F	A	A	F	D	D	D	F	D
Approach Vol, veh/h		1560			1539			774			475	
Approach Delay, s/veh		61.1			26.0			64.3			91.2	
Approach LOS		E			C			E			F	

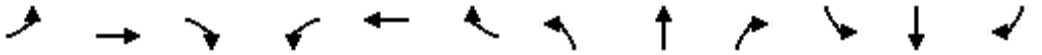
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	24.9	15.0	50.5	12.0	22.5	10.6	54.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	20.4	10.5	46.0	7.5	18.0	6.4	50.1
Max Q Clear Time (g_c+I1), s	7.1	15.2	12.5	48.0	9.5	20.0	6.3	2.0
Green Ext Time (p_c), s	0.0	2.4	0.0	0.0	0.0	0.0	0.0	35.4

Intersection Summary	
HCM 2010 Ctrl Delay	52.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	113	264	115	443	166	265	214	77	101	322	76
Future Volume (veh/h)	23	113	264	115	443	166	265	214	77	101	322	76
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	28	120	0	151	487	193	358	306	143	125	362	104
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.82	0.94	0.92	0.76	0.91	0.86	0.74	0.70	0.54	0.81	0.89	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	427	363	452	649	256	453	672	307	420	550	156
Arrive On Green	0.01	0.09	0.00	0.07	0.31	0.31	0.18	0.34	0.34	0.08	0.24	0.24
Sat Flow, veh/h	1494	1569	1333	1494	2090	823	1494	1989	909	1494	2294	650
Grp Volume(v), veh/h	28	120	0	151	346	334	358	227	222	125	234	232
Grp Sat Flow(s),veh/h/ln	1494	1569	1333	1494	1490	1423	1494	1490	1408	1494	1490	1454
Q Serve(g_s), s	1.0	5.4	0.0	5.1	15.7	15.8	13.1	8.9	9.3	4.6	10.6	10.8
Cycle Q Clear(g_c), s	1.0	5.4	0.0	5.1	15.7	15.8	13.1	8.9	9.3	4.6	10.6	10.8
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.65	1.00		0.45
Lane Grp Cap(c), veh/h	215	427	363	452	463	442	453	503	475	420	358	349
V/C Ratio(X)	0.13	0.28	0.00	0.33	0.75	0.75	0.79	0.45	0.47	0.30	0.65	0.67
Avail Cap(c_a), veh/h	271	427	363	452	463	442	453	503	475	450	358	349
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	27.3	0.0	18.5	23.2	23.3	16.9	19.4	19.5	18.8	25.7	25.8
Incr Delay (d2), s/veh	0.3	1.6	0.0	0.4	10.6	11.4	9.2	2.9	3.3	0.4	9.0	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.5	0.0	0.5	7.8	7.6	6.4	4.1	4.0	1.9	5.2	5.3
LnGrp Delay(d),s/veh	20.5	28.9	0.0	18.9	33.8	34.7	26.1	22.3	22.8	19.2	34.6	35.5
LnGrp LOS	C	C		B	C	C	C	C	C	B	C	D
Approach Vol, veh/h		148			831			807			591	
Approach Delay, s/veh		27.3			31.4			24.1			31.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	29.8	9.6	24.9	18.0	22.5	6.7	27.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.7	23.8	5.1	20.4	13.5	18.0	5.0	20.5
Max Q Clear Time (g_c+I1), s	6.6	11.3	7.1	7.4	15.1	12.8	3.0	17.8
Green Ext Time (p_c), s	0.0	4.6	0.0	4.2	0.0	2.5	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	28.8
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	438	353	57	339	120	401	401	144	196	240	64
Future Volume (veh/h)	93	438	353	57	339	120	401	401	144	196	240	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	127	456	0	72	365	132	427	501	197	215	261	76
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.73	0.96	0.88	0.79	0.93	0.91	0.94	0.80	0.73	0.91	0.92	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	486	413	193	626	223	478	626	245	302	550	157
Arrive On Green	0.02	0.10	0.00	0.05	0.29	0.29	0.16	0.30	0.30	0.10	0.24	0.24
Sat Flow, veh/h	1494	1569	1333	1494	2155	768	1494	2095	819	1494	2290	653
Grp Volume(v), veh/h	127	456	0	72	251	246	427	356	342	215	168	169
Grp Sat Flow(s),veh/h/ln	1494	1569	1333	1494	1490	1433	1494	1490	1424	1494	1490	1453
Q Serve(g_s), s	4.4	21.7	0.0	2.5	10.8	11.0	11.9	16.5	16.6	7.5	7.2	7.5
Cycle Q Clear(g_c), s	4.4	21.7	0.0	2.5	10.8	11.0	11.9	16.5	16.6	7.5	7.2	7.5
Prop In Lane	1.00		1.00	1.00		0.54	1.00		0.58	1.00		0.45
Lane Grp Cap(c), veh/h	330	486	413	193	433	417	478	445	425	302	358	349
V/C Ratio(X)	0.38	0.94	0.00	0.37	0.58	0.59	0.89	0.80	0.80	0.71	0.47	0.48
Avail Cap(c_a), veh/h	330	486	413	215	433	417	478	445	425	302	358	349
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	33.0	0.0	20.0	22.7	22.8	21.4	24.2	24.3	21.6	24.4	24.5
Incr Delay (d2), s/veh	0.6	23.6	0.0	1.2	5.6	6.0	18.7	13.9	14.9	7.6	4.4	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	12.6	0.0	1.1	5.1	5.1	6.3	8.4	8.2	2.0	3.4	3.5
LnGrp Delay(d),s/veh	19.1	56.6	0.0	21.2	28.2	28.8	40.1	38.2	39.2	29.2	28.8	29.3
LnGrp LOS	B	E		C	C	C	D	D	D	C	C	C
Approach Vol, veh/h		583			569			1125			552	
Approach Delay, s/veh		48.4			27.6			39.2			29.1	
Approach LOS		D			C			D			C	

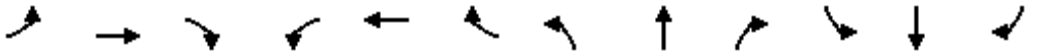
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	26.9	8.4	27.7	16.4	22.5	9.8	26.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	22.4	5.0	22.1	11.9	18.0	5.3	21.8
Max Q Clear Time (g_c+I1), s	9.5	18.6	4.5	23.7	13.9	9.5	6.4	13.0
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	4.1	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	36.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	120	281	122	471	177	282	228	82	107	343	81
Future Volume (veh/h)	24	120	281	122	471	177	282	228	82	107	343	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	29	128	0	161	518	206	381	326	152	132	385	111
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.82	0.94	0.92	0.76	0.91	0.86	0.74	0.70	0.54	0.81	0.89	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	314	267	376	571	226	526	880	402	488	763	217
Arrive On Green	0.01	0.07	0.00	0.10	0.27	0.27	0.19	0.44	0.44	0.08	0.33	0.33
Sat Flow, veh/h	1494	1569	1333	1494	2087	826	1494	1989	909	1494	2291	653
Grp Volume(v), veh/h	29	128	0	161	369	355	381	243	235	132	249	247
Grp Sat Flow(s),veh/h/ln	1494	1569	1333	1494	1490	1423	1494	1490	1408	1494	1490	1453
Q Serve(g_s), s	1.5	7.8	0.0	8.2	23.9	24.1	15.8	10.8	11.2	5.7	13.4	13.7
Cycle Q Clear(g_c), s	1.5	7.8	0.0	8.2	23.9	24.1	15.8	10.8	11.2	5.7	13.4	13.7
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.65	1.00		0.45
Lane Grp Cap(c), veh/h	137	314	267	376	408	389	526	660	623	488	496	484
V/C Ratio(X)	0.21	0.41	0.00	0.43	0.91	0.91	0.72	0.37	0.38	0.27	0.50	0.51
Avail Cap(c_a), veh/h	172	347	295	397	425	406	629	660	623	537	496	484
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	41.0	0.0	26.4	35.1	35.1	16.4	18.6	18.7	19.1	26.7	26.8
Incr Delay (d2), s/veh	0.7	0.8	0.0	0.8	22.2	23.9	3.3	1.6	1.7	0.3	3.6	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	0.0	3.4	12.4	12.0	6.8	4.7	4.6	2.4	6.0	6.0
LnGrp Delay(d),s/veh	33.2	41.8	0.0	27.1	57.2	59.0	19.8	20.1	20.4	19.4	30.3	30.6
LnGrp LOS	C	D		C	E	E	B	C	C	B	C	C
Approach Vol, veh/h		157			885			859			628	
Approach Delay, s/veh		40.3			52.5			20.0			28.1	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	48.8	14.6	24.5	23.1	37.8	7.3	31.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.9	37.5	11.5	22.1	25.5	22.9	5.1	28.5
Max Q Clear Time (g_c+I1), s	7.7	13.2	10.2	9.8	17.8	15.7	3.5	26.1
Green Ext Time (p_c), s	0.1	6.6	0.1	4.3	0.8	3.4	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	34.7
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	466	376	61	361	128	427	427	153	209	255	68
Future Volume (veh/h)	99	466	376	61	361	128	427	427	153	209	255	68
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	136	485	0	77	388	141	449	534	210	230	277	81
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.73	0.96	0.88	0.79	0.93	0.91	0.95	0.80	0.73	0.91	0.92	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	517	439	166	641	230	520	661	259	317	473	136
Arrive On Green	0.03	0.11	0.00	0.05	0.30	0.30	0.23	0.32	0.32	0.13	0.21	0.21
Sat Flow, veh/h	1494	1569	1333	1494	2151	772	1494	2094	820	1494	2287	656
Grp Volume(v), veh/h	136	485	0	77	267	262	449	380	364	230	179	179
Grp Sat Flow(s),veh/h/ln	1494	1569	1333	1494	1490	1432	1494	1490	1424	1494	1490	1453
Q Serve(g_s), s	6.1	30.7	0.0	3.5	15.3	15.7	23.1	23.4	23.5	12.1	10.8	11.2
Cycle Q Clear(g_c), s	6.1	30.7	0.0	3.5	15.3	15.7	23.1	23.4	23.5	12.1	10.8	11.2
Prop In Lane	1.00		1.00	1.00		0.54	1.00		0.58	1.00		0.45
Lane Grp Cap(c), veh/h	315	517	439	166	444	427	520	470	449	317	308	300
V/C Ratio(X)	0.43	0.94	0.00	0.47	0.60	0.61	0.86	0.81	0.81	0.72	0.58	0.60
Avail Cap(c_a), veh/h	364	525	447	167	444	427	520	470	449	317	308	300
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	43.6	0.0	26.6	30.0	30.1	22.3	31.4	31.5	27.5	35.8	35.9
Incr Delay (d2), s/veh	0.6	18.9	0.0	2.0	2.3	2.6	14.1	13.8	14.7	8.0	7.8	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	16.1	0.0	1.5	6.6	6.5	11.5	11.4	11.0	5.7	5.1	5.2
LnGrp Delay(d),s/veh	24.4	62.4	0.0	28.6	32.3	32.7	36.3	45.2	46.1	35.5	43.5	44.4
LnGrp LOS	C	E		C	C	C	D	D	D	D	D	D
Approach Vol, veh/h		621			606			1193			588	
Approach Delay, s/veh		54.1			32.0			42.1			40.6	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	36.1	9.4	37.4	28.0	25.2	12.5	34.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.6	30.9	5.0	33.5	23.5	20.0	11.3	27.2
Max Q Clear Time (g_c+I1), s	14.1	25.5	5.5	32.7	25.1	13.2	8.1	17.7
Green Ext Time (p_c), s	0.0	3.0	0.0	0.3	0.0	3.7	0.1	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	42.3
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	141	281	150	535	184	282	228	91	109	343	81
Future Volume (veh/h)	24	141	281	150	535	184	282	228	91	109	343	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	29	150	0	197	588	214	381	326	169	135	385	111
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.82	0.94	0.92	0.76	0.91	0.86	0.74	0.70	0.54	0.81	0.89	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	851	381	531	788	286	436	643	327	380	478	136
Arrive On Green	0.01	0.09	0.00	0.11	0.37	0.37	0.22	0.34	0.34	0.09	0.21	0.21
Sat Flow, veh/h	1494	2980	1333	1494	2143	778	1494	1915	972	1494	2291	653
Grp Volume(v), veh/h	29	150	0	197	409	393	381	252	243	135	249	247
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1431	1494	1490	1397	1494	1490	1453
Q Serve(g_s), s	1.4	4.6	0.0	8.9	23.9	24.0	19.0	13.5	14.0	7.0	15.9	16.2
Cycle Q Clear(g_c), s	1.4	4.6	0.0	8.9	23.9	24.0	19.0	13.5	14.0	7.0	15.9	16.2
Prop In Lane	1.00		1.00	1.00		0.54	1.00		0.70	1.00		0.45
Lane Grp Cap(c), veh/h	200	851	381	531	548	527	436	501	469	380	311	304
V/C Ratio(X)	0.14	0.18	0.00	0.37	0.75	0.75	0.87	0.50	0.52	0.35	0.80	0.81
Avail Cap(c_a), veh/h	235	851	381	578	548	527	495	501	469	419	311	304
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.00	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	34.4	0.0	19.9	27.5	27.5	23.1	26.5	26.7	27.2	37.6	37.7
Incr Delay (d2), s/veh	0.3	0.4	0.0	0.4	7.6	7.9	14.5	3.6	4.0	0.6	19.1	20.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.0	0.0	3.7	10.9	10.6	9.6	6.0	5.9	2.9	8.1	8.3
LnGrp Delay(d),s/veh	26.1	34.9	0.0	20.3	35.1	35.5	37.6	30.1	30.7	27.7	56.6	58.5
LnGrp LOS	C	C		C	D	D	D	C	C	C	E	E
Approach Vol, veh/h		179			999			876			631	
Approach Delay, s/veh		33.5			32.3			33.5			51.2	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	38.1	15.5	33.1	26.1	25.4	7.3	41.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.4	33.6	14.1	22.9	25.5	19.5	5.1	31.9
Max Q Clear Time (g_c+I1), s	9.0	16.0	10.9	6.6	21.0	18.2	3.4	26.0
Green Ext Time (p_c), s	0.1	6.0	0.2	5.7	0.5	0.8	0.0	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	37.2
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	535	376	79	401	132	427	427	184	217	255	68
Future Volume (veh/h)	99	535	376	79	401	132	427	427	184	217	255	68
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	136	557	0	100	431	145	449	534	252	238	277	81
Adj No. of Lanes	1	2	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.73	0.96	0.88	0.79	0.93	0.91	0.95	0.80	0.73	0.91	0.92	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	281	919	411	264	620	207	543	614	289	326	468	134
Arrive On Green	0.03	0.10	0.00	0.05	0.28	0.28	0.25	0.31	0.31	0.14	0.20	0.20
Sat Flow, veh/h	1494	2980	1333	1494	2197	732	1494	1969	926	1494	2287	656
Grp Volume(v), veh/h	136	557	0	100	291	285	449	404	382	238	179	179
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1439	1494	1490	1405	1494	1490	1453
Q Serve(g_s), s	6.3	17.9	0.0	4.8	17.4	17.7	22.5	25.6	25.7	12.3	10.8	11.2
Cycle Q Clear(g_c), s	6.3	17.9	0.0	4.8	17.4	17.7	22.5	25.6	25.7	12.3	10.8	11.2
Prop In Lane	1.00		1.00	1.00		0.51	1.00		0.66	1.00		0.45
Lane Grp Cap(c), veh/h	281	919	411	264	420	406	543	465	438	326	305	297
V/C Ratio(X)	0.48	0.61	0.00	0.38	0.69	0.70	0.83	0.87	0.87	0.73	0.59	0.60
Avail Cap(c_a), veh/h	286	919	411	264	420	406	608	465	438	356	305	297
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	39.1	0.0	24.9	32.0	32.1	21.1	32.5	32.5	26.9	36.0	36.1
Incr Delay (d2), s/veh	0.9	2.1	0.0	0.8	8.3	9.0	8.4	19.3	20.6	6.8	8.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	7.7	0.0	2.0	8.2	8.1	10.4	12.9	12.5	5.6	5.1	5.2
LnGrp Delay(d),s/veh	26.4	41.2	0.0	25.7	40.4	41.1	29.6	51.7	53.1	33.7	44.0	44.9
LnGrp LOS	C	D		C	D	D	C	D	D	C	D	D
Approach Vol, veh/h		693			676			1235			596	
Approach Delay, s/veh		38.3			38.5			44.1			40.1	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	35.7	10.0	35.3	29.7	24.9	12.6	32.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.5	31.2	5.5	28.8	29.6	18.1	8.5	25.8
Max Q Clear Time (g_c+I1), s	14.3	27.7	6.8	19.9	24.5	13.2	8.3	19.7
Green Ext Time (p_c), s	0.2	2.2	0.0	4.7	0.7	2.9	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	40.9
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	150	351	153	590	221	353	285	102	134	428	101
Future Volume (veh/h)	31	150	351	153	590	221	353	285	102	134	428	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	34	163	0	166	641	240	384	310	111	146	465	110
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	476	404	462	776	290	409	712	250	411	491	115
Arrive On Green	0.01	0.10	0.00	0.09	0.37	0.37	0.22	0.33	0.33	0.09	0.21	0.21
Sat Flow, veh/h	1494	1569	1333	1494	2124	795	1494	2164	760	1494	2396	563
Grp Volume(v), veh/h	34	163	0	166	450	431	384	212	209	146	288	287
Grp Sat Flow(s),veh/h/ln	1494	1569	1333	1494	1490	1428	1494	1490	1434	1494	1490	1469
Q Serve(g_s), s	1.6	9.7	0.0	7.3	27.4	27.5	19.6	11.1	11.5	7.6	19.0	19.3
Cycle Q Clear(g_c), s	1.6	9.7	0.0	7.3	27.4	27.5	19.6	11.1	11.5	7.6	19.0	19.3
Prop In Lane	1.00		1.00	1.00		0.56	1.00		0.53	1.00		0.38
Lane Grp Cap(c), veh/h	175	476	404	462	545	522	409	490	472	411	305	301
V/C Ratio(X)	0.19	0.34	0.00	0.36	0.83	0.83	0.94	0.43	0.44	0.36	0.94	0.95
Avail Cap(c_a), veh/h	205	476	404	492	545	522	433	490	472	442	305	301
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	35.7	0.0	20.0	28.8	28.8	24.2	26.2	26.4	27.2	39.2	39.3
Incr Delay (d2), s/veh	0.5	1.8	0.0	0.5	13.4	13.9	27.6	2.8	3.0	0.5	38.7	41.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.5	0.0	3.0	13.3	12.8	13.5	5.0	4.9	3.2	11.1	11.3
LnGrp Delay(d),s/veh	26.1	37.5	0.0	20.4	42.2	42.8	51.8	29.0	29.4	27.7	77.9	80.4
LnGrp LOS	C	D		C	D	D	D	C	C	C	E	F
Approach Vol, veh/h		197			1047			805			721	
Approach Delay, s/veh		35.6			39.0			40.0			68.7	
Approach LOS		D			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	37.4	13.8	34.8	26.4	25.0	7.6	41.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.6	32.4	11.3	26.7	23.5	20.5	5.1	32.9
Max Q Clear Time (g_c+I1), s	9.6	13.5	9.3	11.7	21.6	21.3	3.6	29.5
Green Ext Time (p_c), s	0.1	6.1	0.1	6.0	0.3	0.0	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	46.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	583	470	76	451	160	534	534	192	261	319	85
Future Volume (veh/h)	124	583	470	76	451	160	534	534	192	261	319	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	135	634	0	83	490	174	580	580	209	284	347	92
Adj No. of Lanes	1	1	1	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	557	473	147	713	252	456	572	206	295	421	110
Arrive On Green	0.02	0.12	0.00	0.05	0.33	0.33	0.23	0.27	0.27	0.15	0.18	0.18
Sat Flow, veh/h	1494	1569	1333	1494	2161	763	1494	2150	773	1494	2339	612
Grp Volume(v), veh/h	135	634	0	83	337	327	580	402	387	284	219	220
Grp Sat Flow(s),veh/h/ln	1494	1569	1333	1494	1490	1434	1494	1490	1432	1494	1490	1461
Q Serve(g_s), s	5.8	35.5	0.0	3.6	19.6	19.8	23.5	26.6	26.6	14.9	14.2	14.5
Cycle Q Clear(g_c), s	5.8	35.5	0.0	3.6	19.6	19.8	23.5	26.6	26.6	14.9	14.2	14.5
Prop In Lane	1.00		1.00	1.00		0.53	1.00		0.54	1.00		0.42
Lane Grp Cap(c), veh/h	286	557	473	147	492	473	456	396	381	295	268	263
V/C Ratio(X)	0.47	1.14	0.00	0.57	0.69	0.69	1.27	1.01	1.02	0.96	0.82	0.84
Avail Cap(c_a), veh/h	286	557	473	147	492	473	456	396	381	295	268	263
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	44.1	0.0	25.8	29.0	29.1	25.4	36.7	36.7	30.1	39.4	39.6
Incr Delay (d2), s/veh	0.7	75.2	0.0	5.0	7.6	8.0	138.5	48.6	50.4	42.6	23.4	25.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	27.0	0.0	1.7	9.1	8.9	17.6	16.3	15.8	5.2	7.5	7.7
LnGrp Delay(d),s/veh	23.7	119.3	0.0	30.8	36.6	37.1	164.0	85.4	87.1	72.6	62.9	65.3
LnGrp LOS	C	F		C	D	D	F	F	F	E	E	E
Approach Vol, veh/h		769			747			1369			723	
Approach Delay, s/veh		102.5			36.2			119.2			67.4	
Approach LOS		F			D			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.4	31.1	9.5	40.0	28.0	22.5	12.0	37.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	14.9	26.6	5.0	35.5	23.5	18.0	7.5	33.0
Max Q Clear Time (g_c+I1), s	16.9	28.6	5.6	37.5	25.5	16.5	7.8	21.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.0	0.0	6.2

Intersection Summary	
HCM 2010 Ctrl Delay	88.1
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	297	351	278	840	221	353	322	175	134	491	226
Future Volume (veh/h)	104	297	351	278	840	221	353	322	175	134	491	226
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	113	323	0	302	913	240	384	350	190	146	534	246
Adj No. of Lanes	1	2	1	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	941	421	557	1199	536	568	769	344	347	700	313
Arrive On Green	0.09	0.42	0.00	0.15	0.40	0.40	0.12	0.26	0.26	0.09	0.23	0.23
Sat Flow, veh/h	1494	2980	1333	1494	2980	1333	2898	2980	1333	1494	2980	1333
Grp Volume(v), veh/h	113	323	0	302	913	240	384	350	190	146	534	246
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1333	1449	1490	1333	1494	1490	1333
Q Serve(g_s), s	5.1	7.3	0.0	12.9	26.4	13.1	9.9	9.9	12.3	7.3	16.7	17.3
Cycle Q Clear(g_c), s	5.1	7.3	0.0	12.9	26.4	13.1	9.9	9.9	12.3	7.3	16.7	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	941	421	557	1199	536	568	769	344	347	700	313
V/C Ratio(X)	0.47	0.34	0.00	0.54	0.76	0.45	0.68	0.46	0.55	0.42	0.76	0.79
Avail Cap(c_a), veh/h	251	941	421	648	1199	536	568	769	344	381	700	313
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.00	0.62	0.62	0.62	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	22.0	0.0	16.9	25.7	21.8	26.3	31.2	32.1	25.4	35.6	35.9
Incr Delay (d2), s/veh	1.3	0.9	0.0	0.5	2.9	1.7	3.2	1.9	6.3	0.8	7.7	17.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.1	0.0	5.4	11.3	5.0	4.2	4.3	5.1	3.0	7.6	7.9
LnGrp Delay(d),s/veh	23.3	22.9	0.0	17.4	28.6	23.4	29.5	33.1	38.4	26.3	43.3	53.6
LnGrp LOS	C	C		B	C	C	C	C	D	C	D	D
Approach Vol, veh/h		436			1455			924			926	
Approach Delay, s/veh		23.0			25.4			32.7			43.4	
Approach LOS		C			C			C			D	

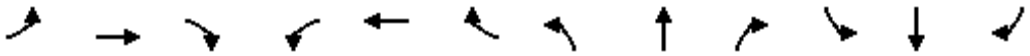
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	30.3	19.9	36.1	16.0	28.0	11.3	44.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	23.5	21.5	25.5	11.5	23.5	7.5	39.5
Max Q Clear Time (g_c+I1), s	9.3	14.3	14.9	9.3	11.9	19.3	7.1	28.4
Green Ext Time (p_c), s	0.1	4.9	0.5	8.6	0.0	2.7	0.0	6.7

Intersection Summary	
HCM 2010 Ctrl Delay	31.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	312	960	470	232	763	160	534	628	380	261	397	241
Future Volume (veh/h)	312	960	470	232	763	160	534	628	380	261	397	241
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569	1569
Adj Flow Rate, veh/h	339	1043	0	252	829	57	580	683	217	284	432	105
Adj No. of Lanes	1	2	1	1	2	1	2	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	338	1037	464	248	897	401	700	647	289	277	590	264
Arrive On Green	0.22	0.46	0.00	0.12	0.30	0.30	0.16	0.22	0.22	0.14	0.20	0.20
Sat Flow, veh/h	1494	2980	1333	1494	2980	1333	2898	2980	1333	1494	2980	1333
Grp Volume(v), veh/h	339	1043	0	252	829	57	580	683	217	284	432	105
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1333	1449	1490	1333	1494	1490	1333
Q Serve(g_s), s	16.5	34.8	0.0	11.8	26.9	3.1	15.6	21.7	15.2	13.7	13.6	6.9
Cycle Q Clear(g_c), s	16.5	34.8	0.0	11.8	26.9	3.1	15.6	21.7	15.2	13.7	13.6	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	338	1037	464	248	897	401	700	647	289	277	590	264
V/C Ratio(X)	1.00	1.01	0.00	1.01	0.92	0.14	0.83	1.06	0.75	1.03	0.73	0.40
Avail Cap(c_a), veh/h	338	1037	464	248	897	401	700	647	289	277	590	264
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.11	0.11	0.00	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	26.9	0.0	25.5	33.8	25.5	27.9	39.2	36.6	30.3	37.6	34.9
Incr Delay (d2), s/veh	16.5	10.5	0.0	49.4	11.6	0.5	8.2	51.1	16.3	61.1	7.8	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	15.7	0.0	10.2	12.5	1.2	2.5	13.5	6.9	6.6	6.2	2.8
LnGrp Delay(d),s/veh	39.3	37.4	0.0	75.1	45.5	26.0	36.1	90.3	52.9	91.4	45.4	39.3
LnGrp LOS	F	F		F	D	C	D	F	D	F	D	D
Approach Vol, veh/h		1382			1138			1480			821	
Approach Delay, s/veh		37.9			51.0			63.6			60.6	
Approach LOS		D			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.2	26.2	16.3	39.3	20.1	24.3	21.0	34.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.7	21.7	11.8	34.8	15.6	19.8	16.5	30.1
Max Q Clear Time (g_c+I1), s	15.7	23.7	13.8	36.8	17.6	15.6	18.5	28.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.9	0.0	1.0

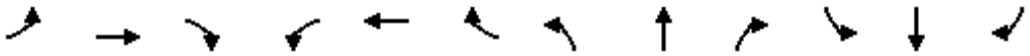
Intersection Summary	
HCM 2010 Ctrl Delay	52.7
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	161	76	17	377	0	43	4	6	0	8	1
Future Volume (Veh/h)	1	161	76	17	377	0	43	4	6	0	8	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.84	0.49	0.53	0.90	0.92	0.67	0.25	0.38	0.92	0.40	0.25
Hourly flow rate (vph)	4	192	155	32	419	0	64	16	16	0	20	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	419			347			774	760	270	707	838	419
vC1, stage 1 conf vol							278	278		483	483	
vC2, stage 2 conf vol							497	483		224	355	
vCu, unblocked vol	419			347			774	760	270	707	838	419
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			86	97	98	100	96	99
cM capacity (veh/h)	1140			1212			470	485	769	498	462	634

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	4	347	32	419	96	24
Volume Left	4	0	32	0	64	0
Volume Right	0	155	0	0	16	4
cSH	1140	1700	1212	1700	505	484
Volume to Capacity	0.00	0.20	0.03	0.25	0.19	0.05
Queue Length 95th (ft)	0	0	2	0	17	4
Control Delay (s)	8.2	0.0	8.1	0.0	13.8	12.8
Lane LOS	A		A		B	B
Approach Delay (s)	0.1		0.6		13.8	12.8
Approach LOS					B	B

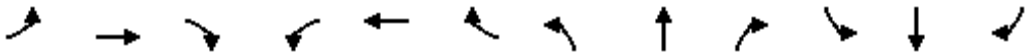
Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	40.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	458	65	1	331	0	38	5	10	0	3	1
Future Volume (Veh/h)	2	458	65	1	331	0	38	5	10	0	3	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.90	0.85	0.25	0.85	0.92	0.63	0.62	0.42	0.92	0.38	0.25
Hourly flow rate (vph)	4	509	76	4	389	0	60	8	24	0	8	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	389			585			960	952	547	942	990	389
vC1, stage 1 conf vol							555	555		397	397	
vC2, stage 2 conf vol							405	397		545	593	
vCu, unblocked vol	389			585			960	952	547	942	990	389
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			86	98	96	100	98	99
cM capacity (veh/h)	1170			990			434	439	537	423	425	659

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	4	585	4	389	92	12
Volume Left	4	0	4	0	60	0
Volume Right	0	76	0	0	24	4
cSH	1170	1700	990	1700	457	482
Volume to Capacity	0.00	0.34	0.00	0.23	0.20	0.02
Queue Length 95th (ft)	0	0	0	0	19	2
Control Delay (s)	8.1	0.0	8.7	0.0	14.9	12.7
Lane LOS	A		A		B	B
Approach Delay (s)	0.1		0.1		14.9	12.7
Approach LOS					B	B

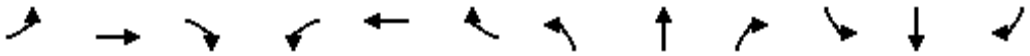
Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	50.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	171	81	18	401	0	46	4	6	0	9	1
Future Volume (Veh/h)	1	171	81	18	401	0	46	4	6	0	9	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.84	0.49	0.53	0.90	0.92	0.67	0.25	0.38	0.92	0.40	0.25
Hourly flow rate (vph)	4	204	165	34	446	0	69	16	16	0	23	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	446			369			824	808	286	750	891	446
vC1, stage 1 conf vol							294	294		514	514	
vC2, stage 2 conf vol							530	514		236	377	
vCu, unblocked vol	446			369			824	808	286	750	891	446
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			85	97	98	100	95	99
cM capacity (veh/h)	1114			1190			447	467	753	478	444	612

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	4	369	34	446	101	27
Volume Left	4	0	34	0	69	0
Volume Right	0	165	0	0	16	4
cSH	1114	1700	1190	1700	481	463
Volume to Capacity	0.00	0.22	0.03	0.26	0.21	0.06
Queue Length 95th (ft)	0	0	2	0	20	5
Control Delay (s)	8.2	0.0	8.1	0.0	14.5	13.3
Lane LOS	A		A		B	B
Approach Delay (s)	0.1		0.6		14.5	13.3
Approach LOS					B	B

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	42.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	487	69	1	352	0	40	5	11	0	3	1
Future Volume (Veh/h)	2	487	69	1	352	0	40	5	11	0	3	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.90	0.85	0.25	0.85	0.92	0.63	0.62	0.42	0.92	0.38	0.25
Hourly flow rate (vph)	4	541	81	4	414	0	63	8	26	0	8	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	414			622			1020	1012	582	1001	1052	414
vC1, stage 1 conf vol							590	590		422	422	
vC2, stage 2 conf vol							430	422		579	630	
vCu, unblocked vol	414			622			1020	1012	582	1001	1052	414
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			85	98	95	100	98	99
cM capacity (veh/h)	1145			959			413	422	513	401	407	638

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	4	622	4	414	97	12
Volume Left	4	0	4	0	63	0
Volume Right	0	81	0	0	26	4
cSH	1145	1700	959	1700	437	463
Volume to Capacity	0.00	0.37	0.00	0.24	0.22	0.03
Queue Length 95th (ft)	0	0	0	0	21	2
Control Delay (s)	8.2	0.0	8.8	0.0	15.6	13.0
Lane LOS	A		A		C	B
Approach Delay (s)	0.1		0.1		15.6	13.0
Approach LOS					C	B

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	52.5%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	180	81	25	429	2	46	9	8	7	23	72
Future Volume (veh/h)	24	180	81	25	429	2	46	9	8	7	23	72
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	96	214	165	47	477	2	69	36	21	8	58	288
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.25	0.84	0.49	0.53	0.90	0.92	0.67	0.25	0.38	0.92	0.40	0.25
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	400	457	352	470	866	4	213	330	193	513	81	404
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	912	823	634	1000	1561	7	1031	930	543	1341	229	1138
Grp Volume(v), veh/h	96	0	379	47	0	479	69	0	57	8	0	346
Grp Sat Flow(s),veh/h/ln	912	0	1457	1000	0	1567	1031	0	1473	1341	0	1368
Q Serve(g_s), s	7.5	0.0	15.6	3.0	0.0	19.6	6.2	0.0	2.6	0.4	0.0	21.8
Cycle Q Clear(g_c), s	27.1	0.0	15.6	18.6	0.0	19.6	28.0	0.0	2.6	3.0	0.0	21.8
Prop In Lane	1.00		0.44	1.00		0.00	1.00		0.37	1.00		0.83
Lane Grp Cap(c), veh/h	400	0	808	470	0	870	213	0	523	513	0	486
V/C Ratio(X)	0.24	0.00	0.47	0.10	0.00	0.55	0.32	0.00	0.11	0.02	0.00	0.71
Avail Cap(c_a), veh/h	400	0	808	470	0	870	213	0	523	513	0	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.00	0.92	1.00	0.00	1.00	0.96	0.00	0.96	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	13.4	19.0	0.0	14.3	40.0	0.0	21.6	22.6	0.0	27.8
Incr Delay (d2), s/veh	1.3	0.0	1.8	0.4	0.0	2.5	3.9	0.0	0.4	0.1	0.0	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	6.6	0.9	0.0	9.0	2.0	0.0	1.1	0.2	0.0	9.4
LnGrp Delay(d),s/veh	24.3	0.0	15.2	19.4	0.0	16.8	43.8	0.0	22.0	22.7	0.0	36.5
LnGrp LOS	C		B	B		B	D		C	C		D
Approach Vol, veh/h		475			526			126			354	
Approach Delay, s/veh		17.0			17.0			34.0			36.2	
Approach LOS		B			B			C			D	

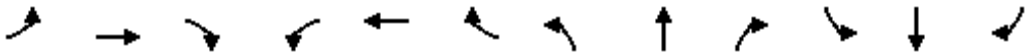
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.0		60.0		40.0		60.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		35.5		55.5		35.5		55.5
Max Q Clear Time (g_c+I1), s		30.0		29.1		23.8		21.6
Green Ext Time (p_c), s		1.4		7.1		2.3		7.6

Intersection Summary	
HCM 2010 Ctrl Delay	23.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	518	69	5	370	8	40	20	19	4	12	46
Future Volume (veh/h)	79	518	69	5	370	8	40	20	19	4	12	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	158	576	81	20	435	9	63	32	45	4	32	184
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.50	0.90	0.85	0.25	0.85	0.92	0.63	0.62	0.42	0.92	0.38	0.25
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	586	909	128	406	1034	21	178	139	195	324	47	273
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	942	1346	189	773	1531	32	1161	591	831	1317	202	1162
Grp Volume(v), veh/h	158	0	657	20	0	444	63	0	77	4	0	216
Grp Sat Flow(s),veh/h/ln	942	0	1535	773	0	1563	1161	0	1422	1317	0	1364
Q Serve(g_s), s	9.2	0.0	24.3	1.5	0.0	12.9	5.2	0.0	4.4	0.2	0.0	14.4
Cycle Q Clear(g_c), s	22.0	0.0	24.3	25.8	0.0	12.9	19.6	0.0	4.4	4.6	0.0	14.4
Prop In Lane	1.00		0.12	1.00		0.02	1.00		0.58	1.00		0.85
Lane Grp Cap(c), veh/h	586	0	1036	406	0	1055	178	0	334	324	0	320
V/C Ratio(X)	0.27	0.00	0.63	0.05	0.00	0.42	0.35	0.00	0.23	0.01	0.00	0.67
Avail Cap(c_a), veh/h	586	0	1036	406	0	1055	178	0	334	324	0	320
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	0.96	0.00	0.96	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	9.2	16.6	0.0	7.4	43.7	0.0	30.9	32.8	0.0	34.8
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.2	0.0	1.2	5.3	0.0	1.5	0.1	0.0	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	10.3	0.3	0.0	5.8	1.9	0.0	1.9	0.1	0.0	6.4
LnGrp Delay(d),s/veh	12.5	0.0	9.5	16.8	0.0	8.6	49.0	0.0	32.5	32.9	0.0	45.6
LnGrp LOS	B		A	B		A	D		C	C		D
Approach Vol, veh/h		815			464			140			220	
Approach Delay, s/veh		10.1			9.0			39.9			45.4	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		28.0		72.0		28.0		72.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		23.5		67.5		23.5		67.5
Max Q Clear Time (g_c+I1), s		21.6		26.3		16.4		27.8
Green Ext Time (p_c), s		0.4		11.3		1.2		11.2

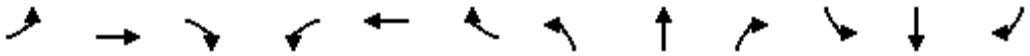
Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	214	101	23	502	0	57	5	8	0	11	1
Future Volume (Veh/h)	1	214	101	23	502	0	57	5	8	0	11	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	233	110	25	546	0	62	5	9	0	12	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	546			343			893	886	288	842	941	546
vC1, stage 1 conf vol							290	290		596	596	
vC2, stage 2 conf vol							603	596		246	345	
vCu, unblocked vol	546			343			893	886	288	842	941	546
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			85	99	99	100	97	100
cM capacity (veh/h)	1023			1216			426	440	751	443	427	538

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1	343	25	546	76	13
Volume Left	1	0	25	0	62	0
Volume Right	0	110	0	0	9	1
cSH	1023	1700	1216	1700	450	434
Volume to Capacity	0.00	0.20	0.02	0.32	0.17	0.03
Queue Length 95th (ft)	0	0	2	0	15	2
Control Delay (s)	8.5	0.0	8.0	0.0	14.6	13.6
Lane LOS	A		A		B	B
Approach Delay (s)	0.0		0.4		14.6	13.6
Approach LOS					B	B

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	49.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	609	86	1	440	0	51	7	13	0	4	1
Future Volume (Veh/h)	3	609	86	1	440	0	51	7	13	0	4	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	662	93	1	478	0	55	8	14	0	4	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	478			755			1198	1194	708	1166	1241	478
vC1, stage 1 conf vol							714	714		480	480	
vC2, stage 2 conf vol							483	480		686	761	
vCu, unblocked vol	478			755			1198	1194	708	1166	1241	478
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			85	98	97	100	99	100
cM capacity (veh/h)	1084			855			358	371	434	356	357	587

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	3	755	1	478	77	5
Volume Left	3	0	1	0	55	0
Volume Right	0	93	0	0	14	1
cSH	1084	1700	855	1700	371	387
Volume to Capacity	0.00	0.44	0.00	0.28	0.21	0.01
Queue Length 95th (ft)	0	0	0	0	19	1
Control Delay (s)	8.3	0.0	9.2	0.0	17.2	14.4
Lane LOS	A		A		C	B
Approach Delay (s)	0.0		0.0		17.2	14.4
Approach LOS					C	B

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	62.3%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	324	101	73	690	15	57	49	37	25	86	189
Future Volume (veh/h)	111	324	101	73	690	15	57	49	37	25	86	189
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	121	352	110	79	750	16	62	53	40	27	93	205
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	1027	873	586	1002	21	129	212	160	337	111	245
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	699	1569	1333	926	1530	33	1077	831	627	1298	437	962
Grp Volume(v), veh/h	121	352	110	79	0	766	62	0	93	27	0	298
Grp Sat Flow(s),veh/h/ln	699	1569	1333	926	0	1563	1077	0	1458	1298	0	1399
Q Serve(g_s), s	14.2	10.0	3.1	4.1	0.0	33.2	5.3	0.0	5.1	1.7	0.0	20.2
Cycle Q Clear(g_c), s	47.3	10.0	3.1	14.1	0.0	33.2	25.5	0.0	5.1	6.8	0.0	20.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.43	1.00		0.69
Lane Grp Cap(c), veh/h	298	1027	873	586	0	1024	129	0	372	337	0	357
V/C Ratio(X)	0.41	0.34	0.13	0.13	0.00	0.75	0.48	0.00	0.25	0.08	0.00	0.84
Avail Cap(c_a), veh/h	298	1027	873	586	0	1024	129	0	372	337	0	357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	0.00	1.00	0.58	0.00	0.58	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	7.7	6.5	10.8	0.0	11.7	47.5	0.0	29.6	32.3	0.0	35.3
Incr Delay (d2), s/veh	3.8	0.8	0.3	0.5	0.0	5.0	7.2	0.0	0.9	0.5	0.0	20.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.5	1.2	1.1	0.0	15.5	2.0	0.0	2.1	0.7	0.0	9.8
LnGrp Delay(d),s/veh	31.5	8.5	6.8	11.3	0.0	16.7	54.7	0.0	30.6	32.8	0.0	55.4
LnGrp LOS	C	A	A	B		B	D		C	C		E
Approach Vol, veh/h		583			845			155			325	
Approach Delay, s/veh		12.9			16.2			40.2			53.5	
Approach LOS		B			B			D			D	

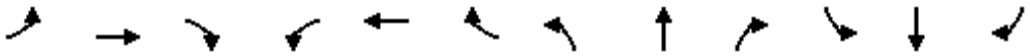
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		70.0		30.0		70.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		25.5		65.5		25.5		65.5
Max Q Clear Time (g_c+I1), s		27.5		49.3		22.2		35.2
Green Ext Time (p_c), s		0.0		8.7		0.9		12.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	285	891	86	63	674	38	51	120	88	31	98	235
Future Volume (veh/h)	285	891	86	63	674	38	51	120	88	31	98	235
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	310	968	93	68	733	41	55	130	96	34	107	255
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	369	1118	951	205	1049	59	72	165	122	129	81	194
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	694	1569	1333	530	1472	82	1016	839	620	1150	412	983
Grp Volume(v), veh/h	310	968	93	68	0	774	55	0	226	34	0	362
Grp Sat Flow(s),veh/h/ln	694	1569	1333	530	0	1554	1016	0	1459	1150	0	1395
Q Serve(g_s), s	42.8	46.3	2.2	11.0	0.0	28.5	0.0	0.0	14.7	2.9	0.0	19.7
Cycle Q Clear(g_c), s	71.3	46.3	2.2	57.3	0.0	28.5	19.7	0.0	14.7	17.6	0.0	19.7
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.42	1.00		0.70
Lane Grp Cap(c), veh/h	369	1118	951	205	0	1108	72	0	287	129	0	275
V/C Ratio(X)	0.84	0.87	0.10	0.33	0.00	0.70	0.76	0.00	0.79	0.26	0.00	1.32
Avail Cap(c_a), veh/h	369	1118	951	205	0	1108	72	0	287	129	0	275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.16	0.16	0.16	1.00	0.00	1.00	0.44	0.00	0.44	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.5	10.8	4.4	32.2	0.0	8.2	50.0	0.0	38.1	46.5	0.0	40.2
Incr Delay (d2), s/veh	3.8	1.6	0.0	4.3	0.0	3.7	28.4	0.0	9.3	4.9	0.0	166.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	20.1	0.8	1.9	0.0	13.2	2.1	0.0	6.6	1.1	0.0	20.2
LnGrp Delay(d),s/veh	33.3	12.3	4.5	36.5	0.0	11.9	78.4	0.0	47.5	51.4	0.0	206.2
LnGrp LOS	C	B	A	D		B	E		D	D		F
Approach Vol, veh/h		1371			842			281			396	
Approach Delay, s/veh		16.5			13.9			53.5			192.9	
Approach LOS		B			B			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		24.2		75.8		24.2		75.8
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.7		71.3		19.7		71.3
Max Q Clear Time (g_c+I1), s		21.7		73.3		21.7		59.3
Green Ext Time (p_c), s		0.0		0.0		0.0		10.3

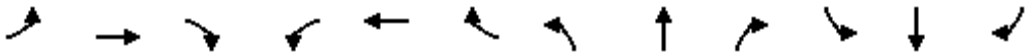
Intersection Summary	
HCM 2010 Ctrl Delay	43.5
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	135	22	1	379	0	48	0	0	0	0	0
Future Volume (Veh/h)	0	135	22	1	379	0	48	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.75	0.79	0.25	0.97	0.92	0.63	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	180	28	4	391	0	76	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	391			208			593	593	194	579	607	391
vC1, stage 1 conf vol							194	194		399	399	
vC2, stage 2 conf vol							399	399		180	208	
vCu, unblocked vol	391			208			593	593	194	579	607	391
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			87	100	100	100	100	100
cM capacity (veh/h)	1168			1363			578	556	847	582	552	658

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	208	4	391	76	0
Volume Left	0	0	4	0	76	0
Volume Right	0	28	0	0	0	0
cSH	1700	1700	1363	1700	578	1700
Volume to Capacity	0.00	0.12	0.00	0.23	0.13	0.00
Queue Length 95th (ft)	0	0	0	0	11	0
Control Delay (s)	0.0	0.0	7.6	0.0	12.2	0.0
Lane LOS			A		B	A
Approach Delay (s)	0.0		0.1		12.2	0.0
Approach LOS					B	A

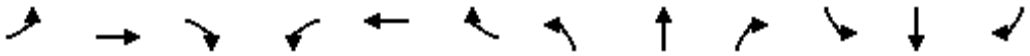
Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	33.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	416	51	1	292	0	38	0	0	0	0	1
Future Volume (Veh/h)	1	416	51	1	292	0	38	0	0	0	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.87	0.85	0.25	0.80	0.92	0.73	0.92	0.92	0.92	0.92	0.25
Hourly flow rate (vph)	4	478	60	4	365	0	52	0	0	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	365			538			893	889	508	859	919	365
vC1, stage 1 conf vol							516	516		373	373	
vC2, stage 2 conf vol							377	373		486	546	
vCu, unblocked vol	365			538			893	889	508	859	919	365
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			89	100	100	100	100	99
cM capacity (veh/h)	1194			1030			461	459	565	475	447	680

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	4	538	4	365	52	4
Volume Left	4	0	4	0	52	0
Volume Right	0	60	0	0	0	4
cSH	1194	1700	1030	1700	461	680
Volume to Capacity	0.00	0.32	0.00	0.21	0.11	0.01
Queue Length 95th (ft)	0	0	0	0	9	0
Control Delay (s)	8.0	0.0	8.5	0.0	13.8	10.3
Lane LOS	A		A		B	B
Approach Delay (s)	0.1		0.1		13.8	10.3
Approach LOS					B	B

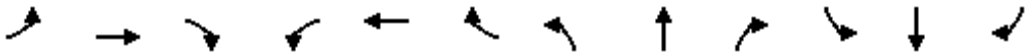
Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	45.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	144	23	1	403	0	51	0	0	0	0	0
Future Volume (Veh/h)	0	144	23	1	403	0	51	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.75	0.79	0.25	0.97	0.92	0.63	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	192	29	4	415	0	81	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	415			221			630	630	206	615	644	415
vC1, stage 1 conf vol							206	206		423	423	
vC2, stage 2 conf vol							423	423		192	221	
vCu, unblocked vol	415			221			630	630	206	615	644	415
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			86	100	100	100	100	100
cM capacity (veh/h)	1144			1348			560	541	834	563	537	637

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	221	4	415	81	0
Volume Left	0	0	4	0	81	0
Volume Right	0	29	0	0	0	0
cSH	1700	1700	1348	1700	560	1700
Volume to Capacity	0.00	0.13	0.00	0.24	0.14	0.00
Queue Length 95th (ft)	0	0	0	0	13	0
Control Delay (s)	0.0	0.0	7.7	0.0	12.5	0.0
Lane LOS			A		B	A
Approach Delay (s)	0.0		0.1		12.5	0.0
Approach LOS					B	A

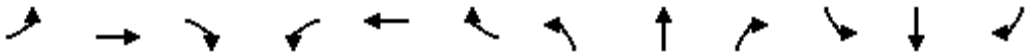
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	443	54	1	311	0	40	0	0	0	0	1
Future Volume (Veh/h)	1	443	54	1	311	0	40	0	0	0	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.87	0.85	0.25	0.80	0.92	0.73	0.92	0.92	0.92	0.92	0.25
Hourly flow rate (vph)	4	509	64	4	389	0	55	0	0	0	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	389			573			950	946	541	914	978	389
vC1, stage 1 conf vol							549	549		397	397	
vC2, stage 2 conf vol							401	397		517	581	
vCu, unblocked vol	389			573			950	946	541	914	978	389
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			87	100	100	100	100	99
cM capacity (veh/h)	1170			1000			440	441	541	455	429	659

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	4	573	4	389	55	4
Volume Left	4	0	4	0	55	0
Volume Right	0	64	0	0	0	4
cSH	1170	1700	1000	1700	440	659
Volume to Capacity	0.00	0.34	0.00	0.23	0.13	0.01
Queue Length 95th (ft)	0	0	0	0	11	0
Control Delay (s)	8.1	0.0	8.6	0.0	14.4	10.5
Lane LOS	A		A		B	B
Approach Delay (s)	0.1		0.1		14.4	10.5
Approach LOS					B	B

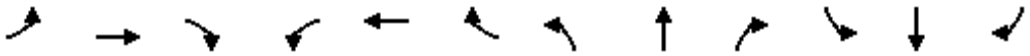
Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	47.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	151	23	1	405	2	51	2	0	7	7	36
Future Volume (Veh/h)	12	151	23	1	405	2	51	2	0	7	7	36
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.75	0.79	0.25	0.97	0.92	0.63	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	201	29	4	418	2	81	2	0	8	8	39
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		840										
pX, platoon unblocked												
vC, conflicting volume	420			230			710	670	216	655	683	419
vC1, stage 1 conf vol							242	242		427	427	
vC2, stage 2 conf vol							469	428		228	256	
vCu, unblocked vol	420			230			710	670	216	655	683	419
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			83	100	100	99	98	94
cM capacity (veh/h)	1139			1338			481	521	824	549	524	634

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	13	230	4	420	83	55
Volume Left	13	0	4	0	81	8
Volume Right	0	29	0	2	0	39
cSH	1139	1700	1338	1700	482	602
Volume to Capacity	0.01	0.14	0.00	0.25	0.17	0.09
Queue Length 95th (ft)	1	0	0	0	15	8
Control Delay (s)	8.2	0.0	7.7	0.0	14.0	11.6
Lane LOS	A		A		B	B
Approach Delay (s)	0.4		0.1		14.0	11.6
Approach LOS					B	B

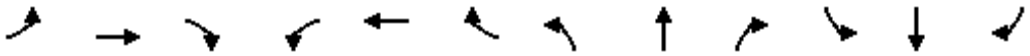
Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	42.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	447	54	1	319	8	40	8	0	4	4	23
Future Volume (Veh/h)	40	447	54	1	319	8	40	8	0	4	4	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.87	0.85	0.25	0.80	0.92	0.73	0.92	0.92	0.92	0.92	0.25
Hourly flow rate (vph)	160	514	64	4	399	9	55	9	0	4	4	92
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		840										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	408			578			1367	1282	546	1250	1310	404
vC1, stage 1 conf vol							866	866		412	412	
vC2, stage 2 conf vol							501	416		838	898	
vCu, unblocked vol	408			506			1357	1265	471	1230	1295	404
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	86			100			76	97	100	99	99	86
cM capacity (veh/h)	1151			982			225	273	550	274	275	647

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	160	578	4	408	64	100
Volume Left	160	0	4	0	55	4
Volume Right	0	64	0	9	0	92
cSH	1151	1700	982	1700	231	584
Volume to Capacity	0.14	0.34	0.00	0.24	0.28	0.17
Queue Length 95th (ft)	12	0	0	0	27	15
Control Delay (s)	8.6	0.0	8.7	0.0	26.5	12.4
Lane LOS	A		A		D	B
Approach Delay (s)	1.9		0.1		26.5	12.4
Approach LOS					D	B

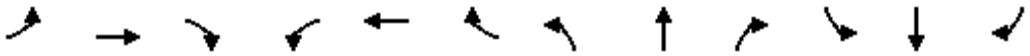
Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	55.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	180	29	1	504	0	64	0	0	0	0	0
Future Volume (Veh/h)	0	180	29	1	504	0	64	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	196	32	1	548	0	70	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	548			228			762	762	212	746	778	548
vC1, stage 1 conf vol							212	212		550	550	
vC2, stage 2 conf vol							550	550		196	228	
vCu, unblocked vol	548			228			762	762	212	746	778	548
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			86	100	100	100	100	100
cM capacity (veh/h)	1021			1340			485	481	828	488	478	536

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	228	1	548	70	0
Volume Left	0	0	1	0	70	0
Volume Right	0	32	0	0	0	0
cSH	1700	1700	1340	1700	485	1700
Volume to Capacity	0.00	0.13	0.00	0.32	0.14	0.00
Queue Length 95th (ft)	0	0	0	0	13	0
Control Delay (s)	0.0	0.0	7.7	0.0	13.7	0.0
Lane LOS			A		B	A
Approach Delay (s)	0.0		0.0		13.7	0.0
Approach LOS					B	A

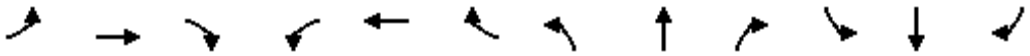
Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	42.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	554	68	1	389	0	51	0	0	0	0	1
Future Volume (Veh/h)	1	554	68	1	389	0	51	0	0	0	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	602	74	1	423	0	55	0	0	0	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	423			676			1067	1066	639	1029	1103	423
vC1, stage 1 conf vol							641	641		425	425	
vC2, stage 2 conf vol							426	425		604	678	
vCu, unblocked vol	423			676			1067	1066	639	1029	1103	423
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			86	100	100	100	100	100
cM capacity (veh/h)	1136			915			399	406	476	414	393	631

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1	676	1	423	55	1
Volume Left	1	0	1	0	55	0
Volume Right	0	74	0	0	0	1
cSH	1136	1700	915	1700	399	631
Volume to Capacity	0.00	0.40	0.00	0.25	0.14	0.00
Queue Length 95th (ft)	0	0	0	0	12	0
Control Delay (s)	8.2	0.0	8.9	0.0	15.5	10.7
Lane LOS	A		A		C	B
Approach Delay (s)	0.0		0.0		15.5	10.7
Approach LOS					C	B

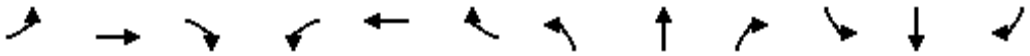
Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	56.2%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	337	29	14	744	7	64	0	7	13	0	13
Future Volume (Veh/h)	7	337	29	14	744	7	64	0	7	13	0	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	366	32	15	809	8	70	0	8	14	0	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		840										
pX, platoon unblocked				0.95			0.95	0.95	0.95	0.95	0.95	
vC, conflicting volume	817			398			1251	1245	382	1233	1257	813
vC1, stage 1 conf vol							398	398		843	843	
vC2, stage 2 conf vol							853	847		390	414	
vCu, unblocked vol	817			334			1237	1230	317	1218	1243	813
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			77	100	99	96	100	96
cM capacity (veh/h)	811			1158			302	332	684	321	335	378

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	8	398	15	817	78	28
Volume Left	8	0	15	0	70	14
Volume Right	0	32	0	8	8	14
cSH	811	1700	1158	1700	321	347
Volume to Capacity	0.01	0.23	0.01	0.48	0.24	0.08
Queue Length 95th (ft)	1	0	1	0	23	7
Control Delay (s)	9.5	0.0	8.1	0.0	19.8	16.3
Lane LOS	A		A		C	C
Approach Delay (s)	0.2		0.1		19.8	16.3
Approach LOS					C	C

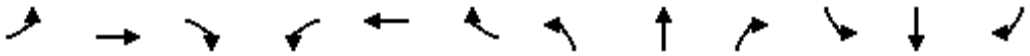
Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	61.5%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	924	68	17	708	19	51	0	19	16	0	17
Future Volume (Veh/h)	20	924	68	17	708	19	51	0	19	16	0	17
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	1004	74	18	770	21	55	0	21	17	0	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		840										
pX, platoon unblocked				0.46			0.46	0.46	0.46	0.46	0.46	
vC, conflicting volume	791			1078			1909	1912	1041	1886	1938	780
vC1, stage 1 conf vol							1085	1085		816	816	
vC2, stage 2 conf vol							824	827		1069	1122	
vCu, unblocked vol	791			573			2398	2405	492	2347	2463	780
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			68	100	92	89	100	95
cM capacity (veh/h)	829			455			169	176	263	161	158	395

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	22	1078	18	791	76	35
Volume Left	22	0	18	0	55	17
Volume Right	0	74	0	21	21	18
cSH	829	1700	455	1700	188	231
Volume to Capacity	0.03	0.63	0.04	0.47	0.40	0.15
Queue Length 95th (ft)	2	0	3	0	45	13
Control Delay (s)	9.5	0.0	13.2	0.0	36.6	23.3
Lane LOS	A		B		E	C
Approach Delay (s)	0.2		0.3		36.6	23.3
Approach LOS					E	C

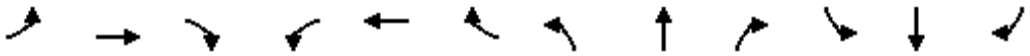
Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	76.5%	ICU Level of Service		D
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	134	0	0	381	0	0	0	0	1	0	1
Future Volume (Veh/h)	0	134	0	0	381	0	0	0	0	1	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.71	0.92	0.92	0.96	0.92	0.92	0.92	0.92	0.25	0.92	0.25
Hourly flow rate (vph)	0	189	0	0	397	0	0	0	0	4	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	397			189			590	586	189	586	586	397
vC1, stage 1 conf vol							189	189		397	397	
vC2, stage 2 conf vol							401	397		189	189	
vCu, unblocked vol	397			189			590	586	189	586	586	397
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	99
cM capacity (veh/h)	1162			1385			577	559	853	582	559	652

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	189	397	0	8
Volume Left	0	0	0	4
Volume Right	0	0	0	4
cSH	1162	1385	1700	615
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	10.9
Lane LOS			A	B
Approach Delay (s)	0.0	0.0	0.0	10.9
Approach LOS			A	B

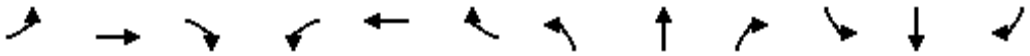
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	33.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	412	0	0	294	0	1	0	0	0	0	0
Future Volume (Veh/h)	1	412	0	0	294	0	1	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.90	0.92	0.92	0.75	0.92	0.25	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	458	0	0	392	0	4	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	392			458			858	858	458	858	858	392
vC1, stage 1 conf vol							466	466		392	392	
vC2, stage 2 conf vol							392	392		466	466	
vCu, unblocked vol	392			458			858	858	458	858	858	392
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	100	100	100	100
cM capacity (veh/h)	1167			1103			480	473	603	481	474	657

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	462	392	4	0
Volume Left	4	0	4	0
Volume Right	0	0	0	0
cSH	1167	1103	480	1700
Volume to Capacity	0.00	0.00	0.01	0.00
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	0.1	0.0	12.6	0.0
Lane LOS	A		B	A
Approach Delay (s)	0.1	0.0	12.6	0.0
Approach LOS			B	A

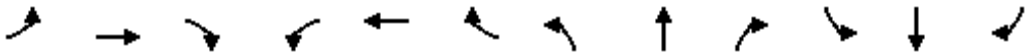
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	143	0	0	405	0	0	0	0	1	0	1
Future Volume (Veh/h)	0	143	0	0	405	0	0	0	0	1	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.71	0.92	0.92	0.96	0.92	0.92	0.92	0.92	0.25	0.92	0.25
Hourly flow rate (vph)	0	201	0	0	422	0	0	0	0	4	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	422			201			627	623	201	623	623	422
vC1, stage 1 conf vol							201	201		422	422	
vC2, stage 2 conf vol							426	422		201	201	
vCu, unblocked vol	422			201			627	623	201	623	623	422
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	99
cM capacity (veh/h)	1137			1371			558	544	840	563	544	632

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	201	422	0	8
Volume Left	0	0	0	4
Volume Right	0	0	0	4
cSH	1137	1371	1700	596
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	11.1
Lane LOS			A	B
Approach Delay (s)	0.0	0.0	0.0	11.1
Approach LOS			A	B

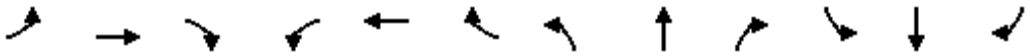
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	35.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	438	0	0	313	0	1	0	0	0	0	0
Future Volume (Veh/h)	1	438	0	0	313	0	1	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.90	0.92	0.92	0.75	0.92	0.25	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	487	0	0	417	0	4	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	417			487			912	912	487	912	912	417
vC1, stage 1 conf vol							495	495		417	417	
vC2, stage 2 conf vol							417	417		495	495	
vCu, unblocked vol	417			487			912	912	487	912	912	417
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	100	100	100	100
cM capacity (veh/h)	1142			1076			459	456	581	460	457	636

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	491	417	4	0
Volume Left	4	0	4	0
Volume Right	0	0	0	0
cSH	1142	1076	459	1700
Volume to Capacity	0.00	0.00	0.01	0.00
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	0.1	0.0	12.9	0.0
Lane LOS	A		B	A
Approach Delay (s)	0.1	0.0	12.9	0.0
Approach LOS			B	A

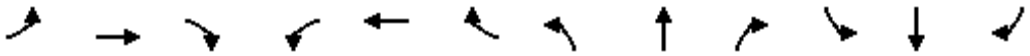
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	38.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	157	0	0	410	0	0	0	0	1	0	1
Future Volume (Veh/h)	0	157	0	0	410	0	0	0	0	1	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.71	0.92	0.92	0.96	0.92	0.92	0.92	0.92	0.25	0.92	0.25
Hourly flow rate (vph)	0	221	0	0	427	0	0	0	0	4	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	427			221			652	648	221	648	648	427
vC1, stage 1 conf vol							221	221		427	427	
vC2, stage 2 conf vol							431	427		221	221	
vCu, unblocked vol	427			221			652	648	221	648	648	427
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	99
cM capacity (veh/h)	1132			1348			550	537	819	555	537	628

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	221	427	0	8
Volume Left	0	0	0	4
Volume Right	0	0	0	4
cSH	1132	1348	1700	589
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	11.2
Lane LOS			A	B
Approach Delay (s)	0.0	0.0	0.0	11.2
Approach LOS			A	B

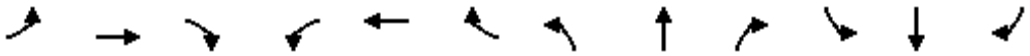
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	447	0	0	328	0	1	0	0	0	0	0
Future Volume (Veh/h)	1	447	0	0	328	0	1	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.90	0.92	0.92	0.75	0.92	0.25	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	497	0	0	437	0	4	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	437			497			942	942	497	942	942	437
vC1, stage 1 conf vol							505	505		437	437	
vC2, stage 2 conf vol							437	437		505	505	
vCu, unblocked vol	437			497			942	942	497	942	942	437
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	100	100	100	100
cM capacity (veh/h)	1123			1067			449	447	573	450	448	620

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	501	437	4	0
Volume Left	4	0	4	0
Volume Right	0	0	0	0
cSH	1123	1067	449	1700
Volume to Capacity	0.00	0.00	0.01	0.00
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	0.1	0.0	13.1	0.0
Lane LOS	A		B	A
Approach Delay (s)	0.1	0.0	13.1	0.0
Approach LOS			B	A

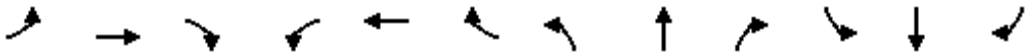
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	38.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	178	0	0	507	5	0	0	0	2	0	1
Future Volume (Veh/h)	0	178	0	0	507	5	0	0	0	2	0	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	193	0	0	551	5	0	0	0	2	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	556			193			748	749	193	746	746	554
vC1, stage 1 conf vol							193	193		554	554	
vC2, stage 2 conf vol							554	556		193	193	
vCu, unblocked vol	556			193			748	749	193	746	746	554
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1015			1380			485	481	849	487	482	532

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	193	556	0	3
Volume Left	0	0	0	2
Volume Right	0	5	0	1
cSH	1015	1380	1700	501
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	12.2
Lane LOS			A	B
Approach Delay (s)	0.0	0.0	0.0	12.2
Approach LOS			A	B

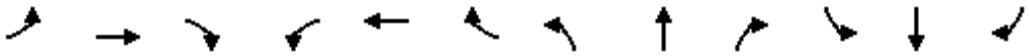
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	42.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	548	0	0	391	10	1	0	0	4	0	0
Future Volume (Veh/h)	1	548	0	0	391	10	1	0	0	4	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	596	0	0	425	11	1	0	0	4	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	436			596			1028	1034	596	1028	1028	430
vC1, stage 1 conf vol							598	598		430	430	
vC2, stage 2 conf vol							430	436		598	598	
vCu, unblocked vol	436			596			1028	1034	596	1028	1028	430
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	100
cM capacity (veh/h)	1124			980			416	418	504	416	419	625

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	597	436	1	4
Volume Left	1	0	1	4
Volume Right	0	11	0	0
cSH	1124	980	416	416
Volume to Capacity	0.00	0.00	0.00	0.01
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	13.7	13.7
Lane LOS	A		B	B
Approach Delay (s)	0.0	0.0	13.7	13.7
Approach LOS			B	B

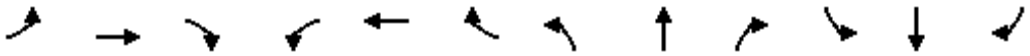
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	45.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	348	0	0	754	5	0	0	0	2	0	14
Future Volume (Veh/h)	7	348	0	0	754	5	0	0	0	2	0	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	378	0	0	820	5	0	0	0	2	0	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	825			378			1229	1219	378	1216	1216	822
vC1, stage 1 conf vol							394	394		822	822	
vC2, stage 2 conf vol							835	825		394	394	
vCu, unblocked vol	825			378			1229	1219	378	1216	1216	822
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	99	100	96
cM capacity (veh/h)	805			1180			312	344	669	334	350	374

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	8	378	0	825	0	17
Volume Left	8	0	0	0	0	2
Volume Right	0	0	0	5	0	15
cSH	805	1700	1700	1700	1700	368
Volume to Capacity	0.01	0.22	0.00	0.49	0.00	0.05
Queue Length 95th (ft)	1	0	0	0	0	4
Control Delay (s)	9.5	0.0	0.0	0.0	0.0	15.2
Lane LOS	A				A	C
Approach Delay (s)	0.2		0.0		0.0	15.2
Approach LOS					A	C

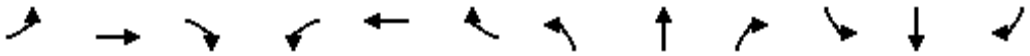
Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	57.5%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	934	0	0	728	10	1	0	0	4	0	16
Future Volume (Veh/h)	20	934	0	0	728	10	1	0	0	4	0	16
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	1015	0	0	791	11	1	0	0	4	0	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	802			1015			1867	1861	1015	1856	1856	796
vC1, stage 1 conf vol							1059	1059		796	796	
vC2, stage 2 conf vol							808	802		1059	1059	
vCu, unblocked vol	802			1015			1867	1861	1015	1856	1856	796
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	100	100	98	100	96
cM capacity (veh/h)	822			683			208	235	289	217	240	387

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	22	1015	0	802	1	21
Volume Left	22	0	0	0	1	4
Volume Right	0	0	0	11	0	17
cSH	822	1700	1700	1700	208	337
Volume to Capacity	0.03	0.60	0.00	0.47	0.00	0.06
Queue Length 95th (ft)	2	0	0	0	0	5
Control Delay (s)	9.5	0.0	0.0	0.0	22.4	16.4
Lane LOS	A				C	C
Approach Delay (s)	0.2		0.0		22.4	16.4
Approach LOS					C	C

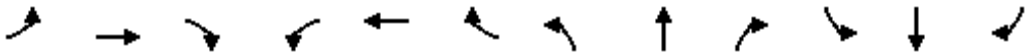
Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	68.4%	ICU Level of Service		C
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	64	44	4	208	3	81	22	2	2	110	80
Future Volume (Veh/h)	11	64	44	4	208	3	81	22	2	2	110	80
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.69	0.80	0.61	0.50	0.84	0.25	0.72	0.79	0.25	0.50	0.79	0.80
Hourly flow rate (vph)	16	80	72	8	248	12	113	28	8	4	139	100
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	260			152			588	424	116	404	454	254
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	260			152			588	424	116	404	454	254
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			60	95	99	99	72	87
cM capacity (veh/h)	1304			1429			283	513	936	522	493	785

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	16	152	268	149	243
Volume Left	16	0	8	113	4
Volume Right	0	72	12	8	100
cSH	1304	1700	1429	323	583
Volume to Capacity	0.01	0.09	0.01	0.46	0.42
Queue Length 95th (ft)	1	0	0	58	51
Control Delay (s)	7.8	0.0	0.3	25.4	15.5
Lane LOS	A		A	D	C
Approach Delay (s)	0.7		0.3	25.4	15.5
Approach LOS				D	C

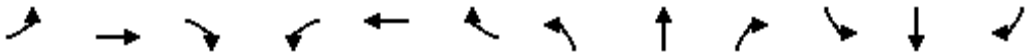
Intersection Summary				
Average Delay	9.4			
Intersection Capacity Utilization	46.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	224	110	3	139	4	94	78	3	2	36	44
Future Volume (Veh/h)	62	224	110	3	139	4	94	78	3	2	36	44
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.92	0.79	0.75	0.83	0.50	0.78	0.81	0.38	0.50	0.69	0.73
Hourly flow rate (vph)	72	243	139	4	167	8	121	96	8	4	52	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	175			382			722	640	312	622	705	171
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	175			382			722	640	312	622	705	171
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			55	74	99	99	85	93
cM capacity (veh/h)	1401			1176			270	372	728	304	341	873

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	72	382	179	225	116
Volume Left	72	0	4	121	4
Volume Right	0	139	8	8	60
cSH	1401	1700	1176	314	495
Volume to Capacity	0.05	0.22	0.00	0.72	0.23
Queue Length 95th (ft)	4	0	0	130	23
Control Delay (s)	7.7	0.0	0.2	40.9	14.5
Lane LOS	A		A	E	B
Approach Delay (s)	1.2		0.2	40.9	14.5
Approach LOS				E	B

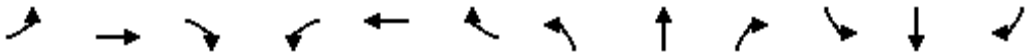
Intersection Summary				
Average Delay	11.8			
Intersection Capacity Utilization	59.1%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	68	47	4	221	3	86	23	2	2	117	85
Future Volume (Veh/h)	12	68	47	4	221	3	86	23	2	2	117	85
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.69	0.80	0.61	0.50	0.84	0.25	0.72	0.79	0.25	0.50	0.79	0.80
Hourly flow rate (vph)	17	85	77	8	263	12	119	29	8	4	148	106
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	275			162			622	448	124	426	481	269
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	275			162			622	448	124	426	481	269
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			54	94	99	99	69	86
cM capacity (veh/h)	1288			1417			257	496	927	503	475	770

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	17	162	283	156	258
Volume Left	17	0	8	119	4
Volume Right	0	77	12	8	106
cSH	1288	1700	1417	295	565
Volume to Capacity	0.01	0.10	0.01	0.53	0.46
Queue Length 95th (ft)	1	0	0	72	59
Control Delay (s)	7.8	0.0	0.3	30.2	16.6
Lane LOS	A		A	D	C
Approach Delay (s)	0.7		0.3	30.2	16.6
Approach LOS				D	C

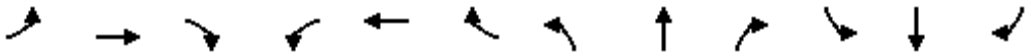
Intersection Summary				
Average Delay	10.5			
Intersection Capacity Utilization	48.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	238	117	3	148	4	100	83	3	2	38	47
Future Volume (Veh/h)	66	238	117	3	148	4	100	83	3	2	38	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.92	0.79	0.75	0.83	0.50	0.78	0.81	0.38	0.50	0.69	0.73
Hourly flow rate (vph)	77	259	148	4	178	8	128	102	8	4	55	64
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	186			407			768	681	333	662	751	182
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	186			407			768	681	333	662	751	182
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			100			48	71	99	99	83	93
cM capacity (veh/h)	1388			1152			245	351	709	275	320	861

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	77	407	190	238	123
Volume Left	77	0	4	128	4
Volume Right	0	148	8	8	64
cSH	1388	1700	1152	288	471
Volume to Capacity	0.06	0.24	0.00	0.83	0.26
Queue Length 95th (ft)	4	0	0	170	26
Control Delay (s)	7.7	0.0	0.2	56.8	15.3
Lane LOS	A		A	F	C
Approach Delay (s)	1.2		0.2	56.8	15.3
Approach LOS				F	C

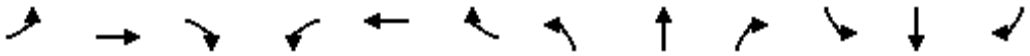
Intersection Summary				
Average Delay	15.5			
Intersection Capacity Utilization	61.7%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	82	47	4	226	3	86	23	2	2	117	85
Future Volume (Veh/h)	12	82	47	4	226	3	86	23	2	2	117	85
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.69	0.80	0.61	0.50	0.84	0.25	0.72	0.79	0.25	0.50	0.79	0.80
Hourly flow rate (vph)	17	103	77	8	269	12	119	29	8	4	148	106
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	281			180			646	472	142	450	505	275
vC1, stage 1 conf vol							176	176		291	291	
vC2, stage 2 conf vol							471	297		160	214	
vCu, unblocked vol	281			180			646	472	142	450	505	275
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			66	95	99	99	75	86
cM capacity (veh/h)	1282			1396			354	600	906	642	596	764

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1
Volume Total	17	180	289	119	37	258
Volume Left	17	0	8	119	0	4
Volume Right	0	77	12	0	8	106
cSH	1282	1700	1396	354	647	656
Volume to Capacity	0.01	0.11	0.01	0.34	0.06	0.39
Queue Length 95th (ft)	1	0	0	36	5	47
Control Delay (s)	7.8	0.0	0.3	20.3	10.9	14.0
Lane LOS	A		A	C	B	B
Approach Delay (s)	0.7		0.3	18.0		14.0
Approach LOS				C		B

Intersection Summary				
Average Delay	7.4			
Intersection Capacity Utilization	47.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	247	117	3	163	4	100	83	3	2	38	47
Future Volume (Veh/h)	66	247	117	3	163	4	100	83	3	2	38	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.92	0.79	0.75	0.83	0.50	0.78	0.81	0.38	0.50	0.69	0.73
Hourly flow rate (vph)	77	268	148	4	196	8	128	102	8	4	55	64
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	204			416			796	708	342	689	778	200
vC1, stage 1 conf vol							496	496		208	208	
vC2, stage 2 conf vol							300	212		481	570	
vCu, unblocked vol	204			416			796	708	342	689	778	200
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			100			70	78	99	99	88	92
cM capacity (veh/h)	1368			1143			421	473	701	402	446	841

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1
Volume Total	77	416	208	128	110	123
Volume Left	77	0	4	128	0	4
Volume Right	0	148	8	0	8	64
cSH	1368	1700	1143	421	484	587
Volume to Capacity	0.06	0.24	0.00	0.30	0.23	0.21
Queue Length 95th (ft)	4	0	0	32	22	20
Control Delay (s)	7.8	0.0	0.2	17.2	14.6	12.7
Lane LOS	A		A	C	B	B
Approach Delay (s)	1.2		0.2	16.0		12.7
Approach LOS				C		B

Intersection Summary				
Average Delay	5.7			
Intersection Capacity Utilization	57.8%	ICU Level of Service		B
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

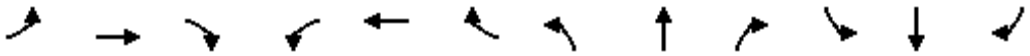
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	197	289	156	258
Demand Flow Rate, veh/h	201	294	159	263
Vehicles Circulating, veh/h	163	168	126	403
Vehicles Exiting, veh/h	503	117	238	59
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.9	7.1	5.2	9.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	201	294	159	263
Cap Entry Lane, veh/h	960	955	996	755
Entry HV Adj Factor	0.980	0.982	0.984	0.981
Flow Entry, veh/h	197	289	156	258
Cap Entry, veh/h	941	938	980	741
V/C Ratio	0.209	0.308	0.160	0.348
Control Delay, s/veh	5.9	7.1	5.2	9.2
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	2

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	162	283	143	290
Demand Flow Rate, veh/h	165	288	146	295
Vehicles Circulating, veh/h	182	155	109	394
Vehicles Exiting, veh/h	507	100	238	49
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	6.9	4.9	9.8
Approach LOS	A	A	A	A

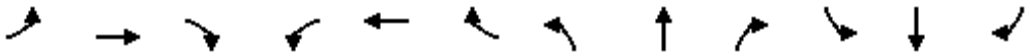
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	165	288	146	295
Cap Entry Lane, veh/h	942	968	1013	762
Entry HV Adj Factor	0.983	0.981	0.982	0.982
Flow Entry, veh/h	162	283	143	290
Cap Entry, veh/h	926	949	995	748
V/C Ratio	0.175	0.298	0.144	0.387
Control Delay, s/veh	5.6	6.9	4.9	9.8
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	85	59	5	277	4	108	29	3	3	146	106
Future Volume (Veh/h)	15	85	59	5	277	4	108	29	3	3	146	106
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	92	64	5	301	4	117	32	3	3	159	115
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	305			156			664	471	124	456	501	303
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	305			156			664	471	124	456	501	303
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			49	93	100	99	66	84
cM capacity (veh/h)	1256			1424			229	483	927	481	464	737

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	16	156	310	152	277
Volume Left	16	0	5	117	3
Volume Right	0	64	4	3	115
cSH	1256	1700	1424	262	549
Volume to Capacity	0.01	0.09	0.00	0.58	0.50
Queue Length 95th (ft)	1	0	0	83	71
Control Delay (s)	7.9	0.0	0.2	36.1	18.1
Lane LOS	A		A	E	C
Approach Delay (s)	0.7		0.2	36.1	18.1
Approach LOS				E	C

Intersection Summary				
Average Delay	11.7			
Intersection Capacity Utilization	58.5%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	298	146	4	185	5	125	104	4	3	48	59
Future Volume (Veh/h)	83	298	146	4	185	5	125	104	4	3	48	59
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	90	324	159	4	201	5	136	113	4	3	52	64
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	206			483			885	798	404	776	874	204
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	206			483			885	798	404	776	874	204
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			100			31	62	99	99	81	92
cM capacity (veh/h)	1365			1080			198	297	647	209	268	837

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	90	483	210	253	119
Volume Left	90	0	4	136	3
Volume Right	0	159	5	4	64
cSH	1365	1700	1080	236	418
Volume to Capacity	0.07	0.28	0.00	1.07	0.28
Queue Length 95th (ft)	5	0	0	272	29
Control Delay (s)	7.8	0.0	0.2	124.3	17.0
Lane LOS	A		A	F	C
Approach Delay (s)	1.2		0.2	124.3	17.0
Approach LOS				F	C

Intersection Summary				
Average Delay	29.6			
Intersection Capacity Utilization	73.0%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	148	59	5	314	41	108	168	3	66	384	106
Future Volume (veh/h)	15	148	59	5	314	41	108	168	3	66	384	106
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	16	161	64	5	341	45	117	183	3	72	417	115
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	329	131	333	418	55	375	834	14	693	642	177
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	993	1069	425	1151	1358	179	868	1539	25	1193	1184	327
Grp Volume(v), veh/h	16	0	225	5	0	386	117	0	186	72	0	532
Grp Sat Flow(s),veh/h/ln	993	0	1494	1151	0	1537	868	0	1564	1193	0	1511
Q Serve(g_s), s	0.9	0.0	7.4	0.2	0.0	13.9	6.6	0.0	3.7	2.0	0.0	14.9
Cycle Q Clear(g_c), s	14.8	0.0	7.4	7.6	0.0	13.9	21.5	0.0	3.7	5.7	0.0	14.9
Prop In Lane	1.00		0.28	1.00		0.12	1.00		0.02	1.00		0.22
Lane Grp Cap(c), veh/h	195	0	460	333	0	473	375	0	848	693	0	819
V/C Ratio(X)	0.08	0.00	0.49	0.02	0.00	0.82	0.31	0.00	0.22	0.10	0.00	0.65
Avail Cap(c_a), veh/h	245	0	535	391	0	551	375	0	848	693	0	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.87	0.00	0.87	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	16.9	20.0	0.0	19.2	17.3	0.0	7.1	8.6	0.0	9.7
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.0	0.0	8.1	1.9	0.0	0.5	0.3	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.1	0.1	0.0	7.0	1.8	0.0	1.7	0.7	0.0	7.0
LnGrp Delay(d),s/veh	26.2	0.0	17.7	20.0	0.0	27.3	19.2	0.0	7.7	8.9	0.0	13.7
LnGrp LOS	C		B	C		C	B		A	A		B
Approach Vol, veh/h		241			391			303			604	
Approach Delay, s/veh		18.3			27.2			12.1			13.1	
Approach LOS		B			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		37.0		23.0		37.0		23.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		29.5		21.5		29.5		21.5
Max Q Clear Time (g_c+I1), s		23.5		16.8		16.9		15.9
Green Ext Time (p_c), s		2.8		1.6		4.6		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	17.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	376	146	4	279	99	125	462	4	81	345	59
Future Volume (veh/h)	83	376	146	4	279	99	125	462	4	81	345	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	90	409	159	4	303	108	136	502	4	88	375	64
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	447	174	167	459	163	316	676	5	267	568	97
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	971	1076	418	840	1105	394	946	1554	12	889	1306	223
Grp Volume(v), veh/h	90	0	568	4	0	411	136	0	506	88	0	439
Grp Sat Flow(s),veh/h/ln	971	0	1495	840	0	1499	946	0	1566	889	0	1529
Q Serve(g_s), s	4.9	0.0	21.5	0.3	0.0	13.3	8.0	0.0	16.2	5.5	0.0	13.6
Cycle Q Clear(g_c), s	18.2	0.0	21.5	21.8	0.0	13.3	21.6	0.0	16.2	21.7	0.0	13.6
Prop In Lane	1.00		0.28	1.00		0.26	1.00		0.01	1.00		0.15
Lane Grp Cap(c), veh/h	308	0	620	167	0	622	316	0	681	267	0	665
V/C Ratio(X)	0.29	0.00	0.92	0.02	0.00	0.66	0.43	0.00	0.74	0.33	0.00	0.66
Avail Cap(c_a), veh/h	318	0	635	176	0	637	316	0	681	267	0	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.45	0.00	0.45	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	16.6	26.8	0.0	14.1	22.0	0.0	14.1	23.2	0.0	13.4
Incr Delay (d2), s/veh	0.5	0.0	17.9	0.1	0.0	2.5	1.9	0.0	3.3	3.3	0.0	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	11.9	0.1	0.0	5.9	2.2	0.0	7.5	1.6	0.0	6.7
LnGrp Delay(d),s/veh	22.0	0.0	34.4	26.9	0.0	16.6	23.9	0.0	17.4	26.5	0.0	18.5
LnGrp LOS	C		C	C		B	C		B	C		B
Approach Vol, veh/h		658			415			642			527	
Approach Delay, s/veh		32.7			16.7			18.8			19.8	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.6		29.4		30.6		29.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5
Max Q Clear Time (g_c+I1), s		23.6		23.5		23.7		23.8
Green Ext Time (p_c), s		1.3		1.3		1.2		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	22.7
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	19.5
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	241	391	303	604
Demand Flow Rate, veh/h	245	399	309	615
Vehicles Circulating, veh/h	503	322	253	472
Vehicles Exiting, veh/h	584	240	495	249
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.1	11.1	8.2	34.4
Approach LOS	B	B	A	D

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	245	399	309	615
Cap Entry Lane, veh/h	683	819	877	705
Entry HV Adj Factor	0.983	0.980	0.982	0.982
Flow Entry, veh/h	241	391	303	604
Cap Entry, veh/h	672	803	861	692
V/C Ratio	0.359	0.487	0.352	0.873
Control Delay, s/veh	10.1	11.1	8.2	34.4
LOS	B	B	A	D
95th %tile Queue, veh	2	3	2	11

Intersection	
Intersection Delay, s/veh	47.6
Intersection LOS	E

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	658	415	642	527
Demand Flow Rate, veh/h	671	423	655	537
Vehicles Circulating, veh/h	476	743	599	452
Vehicles Exiting, veh/h	513	511	548	714
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	48.5	31.5	77.8	22.3
Approach LOS	E	D	F	C

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	671	423	655	537
Cap Entry Lane, veh/h	702	537	621	719
Entry HV Adj Factor	0.980	0.981	0.980	0.980
Flow Entry, veh/h	658	415	642	527
Cap Entry, veh/h	688	527	608	705
V/C Ratio	0.956	0.787	1.055	0.747
Control Delay, s/veh	48.5	31.5	77.8	22.3
LOS	E	D	F	C
95th %tile Queue, veh	14	7	18	7

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	91	0	1	378	198	0	2	0	62	0	10
Future Vol, veh/h	7	91	0	1	378	198	0	2	0	62	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	350	-	-	325	-	325	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	29	81	92	25	79	87	92	50	92	78	92	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	112	0	4	478	228	0	4	0	79	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	478	0	0	112	0	0	657	647	112	649	647	478
Stage 1	-	-	-	-	-	-	161	161	-	486	486	-
Stage 2	-	-	-	-	-	-	496	486	-	163	161	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1084	-	-	1478	-	0	378	390	941	383	390	587
Stage 1	-	-	-	-	-	0	841	765	-	563	551	-
Stage 2	-	-	-	-	-	0	556	551	-	839	765	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1084	-	-	1478	-	-	358	380	941	373	380	587
Mov Cap-2 Maneuver	-	-	-	-	-	-	358	380	-	373	380	-
Stage 1	-	-	-	-	-	-	822	748	-	551	550	-
Stage 2	-	-	-	-	-	-	536	550	-	816	748	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.1	14.6	16.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	380	1084	-	-	1478	-	402
HCM Lane V/C Ratio	0.011	0.022	-	-	0.003	-	0.247
HCM Control Delay (s)	14.6	8.4	-	-	7.4	-	16.9
HCM Lane LOS	B	A	-	-	A	-	C
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	1

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	306	0	0	147	140	1	1	0	209	4	5
Future Vol, veh/h	7	306	0	0	147	140	1	1	0	209	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	350	-	-	325	-	325	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	89	92	25	83	78	25	25	92	86	50	62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	344	0	0	177	179	4	4	0	243	8	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	177	0	0	344	0	0	553	545	344	547	545	177
Stage 1	-	-	-	-	-	-	368	368	-	177	177	-
Stage 2	-	-	-	-	-	-	185	177	-	370	368	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1399	-	-	1215	-	0	444	446	699	448	446	866
Stage 1	-	-	-	-	-	0	652	621	-	825	753	-
Stage 2	-	-	-	-	-	0	817	753	-	650	621	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1399	-	-	1215	-	-	431	442	699	442	442	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	431	442	-	442	442	-
Stage 1	-	-	-	-	-	-	646	616	-	818	753	-
Stage 2	-	-	-	-	-	-	801	753	-	640	616	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	13.4	23.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	436	1399	-	-	1215	-	449
HCM Lane V/C Ratio	0.018	0.009	-	-	-	-	0.577
HCM Control Delay (s)	13.4	7.6	-	-	0	-	23.4
HCM Lane LOS	B	A	-	-	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	97	0	1	402	211	0	2	0	66	0	11
Future Volume (veh/h)	7	97	0	1	402	211	0	2	0	66	0	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	24	120	0	4	509	243	0	4	0	85	0	22
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.29	0.81	0.92	0.25	0.79	0.87	0.92	0.50	0.92	0.78	0.92	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	1773	0	809	1129	537	0	416	0	352	6	76
Arrive On Green	0.02	0.59	0.00	0.01	0.58	0.58	0.00	0.26	0.00	0.26	0.00	0.26
Sat Flow, veh/h	1494	3059	0	1494	1962	933	0	1569	0	1083	23	286
Grp Volume(v), veh/h	24	120	0	4	386	366	0	4	0	107	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	0	1494	1490	1404	0	1569	0	1393	0	0
Q Serve(g_s), s	0.7	1.7	0.0	0.1	14.8	15.0	0.0	0.2	0.0	5.6	0.0	0.0
Cycle Q Clear(g_c), s	0.7	1.7	0.0	0.1	14.8	15.0	0.0	0.2	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.66	0.00		0.00	0.79		0.21
Lane Grp Cap(c), veh/h	410	1773	0	809	858	808	0	416	0	434	0	0
V/C Ratio(X)	0.06	0.07	0.00	0.00	0.45	0.45	0.00	0.01	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	486	1773	0	913	858	808	0	416	0	434	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.3	8.6	0.0	8.8	12.2	12.2	0.0	27.1	0.0	29.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	1.7	1.8	0.0	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	0.0	0.0	6.5	6.2	0.0	0.1	0.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	9.3	8.6	0.0	8.8	13.9	14.0	0.0	27.1	0.0	30.6	0.0	0.0
LnGrp LOS	A	A		A	B	B		C		C		
Approach Vol, veh/h		144			756			4			107	
Approach Delay, s/veh		8.7			13.9			27.1			30.6	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		31.0	5.0	64.0		31.0	6.9	62.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		26.5	7.5	52.5		26.5	7.5	52.5
Max Q Clear Time (g_c+I1), s		2.2	2.1	3.7		8.1	2.7	17.0
Green Ext Time (p_c), s		0.6	0.0	6.9		0.5	0.0	6.7

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	326	0	0	156	149	1	1	0	222	4	5
Future Volume (veh/h)	7	326	0	0	156	149	1	1	0	222	4	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	12	366	0	0	188	191	4	4	0	258	8	8
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.58	0.89	0.92	0.92	0.83	0.78	0.25	0.25	0.92	0.86	0.50	0.62
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	1207	0	399	515	461	414	391	0	738	23	21
Arrive On Green	0.01	0.41	0.00	0.00	0.35	0.35	0.50	0.50	0.00	0.50	0.50	0.50
Sat Flow, veh/h	1494	3059	0	1494	1490	1333	713	775	0	1323	45	41
Grp Volume(v), veh/h	12	366	0	0	188	191	8	0	0	274	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	0	1494	1490	1333	1488	0	0	1409	0	0
Q Serve(g_s), s	0.5	8.3	0.0	0.0	9.4	10.9	0.0	0.0	0.0	11.7	0.0	0.0
Cycle Q Clear(g_c), s	0.5	8.3	0.0	0.0	9.4	10.9	0.3	0.0	0.0	11.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.50		0.00	0.94		0.03
Lane Grp Cap(c), veh/h	330	1207	0	399	515	461	805	0	0	782	0	0
V/C Ratio(X)	0.04	0.30	0.00	0.00	0.36	0.41	0.01	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	406	1207	0	472	515	461	805	0	0	782	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.2	20.2	0.0	0.0	24.5	25.0	12.3	0.0	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	2.0	2.7	0.0	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.5	0.0	0.0	4.1	4.4	0.1	0.0	0.0	4.9	0.0	0.0
LnGrp Delay(d),s/veh	20.3	20.8	0.0	0.0	26.5	27.7	12.3	0.0	0.0	16.4	0.0	0.0
LnGrp LOS	C	C			C	C	B			B		
Approach Vol, veh/h		378			379			8			274	
Approach Delay, s/veh		20.8			27.1			12.3			16.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		55.0	0.0	45.0		55.0	5.9	39.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		50.5	5.0	31.0		50.5	6.5	29.5
Max Q Clear Time (g_c+I1), s		2.3	0.0	10.3		13.9	2.5	12.9
Green Ext Time (p_c), s		1.8	0.0	4.9		1.8	0.0	4.5

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	97	0	1	402	216	0	2	0	80	0	11
Future Volume (veh/h)	7	97	0	1	402	216	0	2	0	80	0	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	24	120	0	4	509	248	0	4	0	103	0	22
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.29	0.81	0.92	0.25	0.79	0.87	0.92	0.50	0.92	0.78	0.92	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	1773	0	809	1121	544	0	416	0	365	5	65
Arrive On Green	0.02	0.59	0.00	0.01	0.58	0.58	0.00	0.26	0.00	0.26	0.00	0.26
Sat Flow, veh/h	1494	3059	0	1494	1947	945	0	1569	0	1129	20	246
Grp Volume(v), veh/h	24	120	0	4	389	368	0	4	0	125	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	0	1494	1490	1402	0	1569	0	1395	0	0
Q Serve(g_s), s	0.7	1.7	0.0	0.1	15.0	15.1	0.0	0.2	0.0	6.8	0.0	0.0
Cycle Q Clear(g_c), s	0.7	1.7	0.0	0.1	15.0	15.1	0.0	0.2	0.0	7.2	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.67	0.00		0.00	0.82		0.18
Lane Grp Cap(c), veh/h	408	1773	0	809	858	807	0	416	0	435	0	0
V/C Ratio(X)	0.06	0.07	0.00	0.00	0.45	0.46	0.00	0.01	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	483	1773	0	913	858	807	0	416	0	435	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.3	8.6	0.0	8.8	12.2	12.2	0.0	27.1	0.0	29.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	1.7	1.9	0.0	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	0.0	0.0	6.6	6.2	0.0	0.1	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	9.4	8.6	0.0	8.8	13.9	14.1	0.0	27.1	0.0	31.3	0.0	0.0
LnGrp LOS	A	A		A	B	B		C		C		
Approach Vol, veh/h		144			761			4			125	
Approach Delay, s/veh		8.8			14.0			27.1			31.3	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		31.0	5.0	64.0		31.0	6.9	62.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		26.5	7.5	52.5		26.5	7.5	52.5
Max Q Clear Time (g_c+I1), s		2.2	2.1	3.7		9.2	2.7	17.1
Green Ext Time (p_c), s		0.7	0.0	7.0		0.6	0.0	6.7

Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	326	0	0	156	164	1	1	0	231	4	5
Future Volume (veh/h)	7	326	0	0	156	164	1	1	0	231	4	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	12	366	0	0	188	210	4	4	0	269	8	8
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.58	0.89	0.92	0.92	0.83	0.78	0.25	0.25	0.92	0.86	0.50	0.62
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	1177	0	387	500	448	422	399	0	753	22	20
Arrive On Green	0.01	0.40	0.00	0.00	0.34	0.34	0.51	0.51	0.00	0.51	0.51	0.51
Sat Flow, veh/h	1494	3059	0	1494	1490	1333	714	775	0	1327	43	40
Grp Volume(v), veh/h	12	366	0	0	188	210	8	0	0	285	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	0	1494	1490	1333	1488	0	0	1409	0	0
Q Serve(g_s), s	0.5	8.5	0.0	0.0	9.6	12.4	0.0	0.0	0.0	12.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	8.5	0.0	0.0	9.6	12.4	0.2	0.0	0.0	12.3	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.50		0.00	0.94		0.03
Lane Grp Cap(c), veh/h	301	1177	0	387	500	448	820	0	0	796	0	0
V/C Ratio(X)	0.04	0.31	0.00	0.00	0.38	0.47	0.01	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	377	1177	0	461	500	448	820	0	0	796	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.1	20.9	0.0	0.0	25.2	26.2	11.8	0.0	0.0	14.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.7	0.0	0.0	2.1	3.5	0.0	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.6	0.0	0.0	4.2	5.0	0.1	0.0	0.0	5.0	0.0	0.0
LnGrp Delay(d),s/veh	21.1	21.6	0.0	0.0	27.4	29.7	11.8	0.0	0.0	16.0	0.0	0.0
LnGrp LOS	C	C			C	C	B			B		
Approach Vol, veh/h		378			398			8			285	
Approach Delay, s/veh		21.5			28.6			11.8			16.0	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		56.0	0.0	44.0		56.0	5.9	38.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		51.5	5.0	30.0		51.5	6.5	28.5
Max Q Clear Time (g_c+I1), s		2.2	0.0	10.5		14.3	2.5	14.4
Green Ext Time (p_c), s		1.9	0.0	4.9		1.9	0.0	4.3

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	121	0	1	503	263	0	3	0	83	0	13
Future Volume (veh/h)	9	121	0	1	503	263	0	3	0	83	0	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	10	132	0	1	547	286	0	3	0	90	0	14
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	384	1844	0	827	1152	601	0	384	0	360	4	46
Arrive On Green	0.01	0.62	0.00	0.00	0.61	0.61	0.00	0.25	0.00	0.25	0.00	0.25
Sat Flow, veh/h	1494	3059	0	1494	1895	989	0	1569	0	1194	17	188
Grp Volume(v), veh/h	10	132	0	1	430	403	0	3	0	104	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	0	1494	1490	1394	0	1569	0	1399	0	0
Q Serve(g_s), s	0.3	1.8	0.0	0.0	15.9	16.0	0.0	0.1	0.0	5.7	0.0	0.0
Cycle Q Clear(g_c), s	0.3	1.8	0.0	0.0	15.9	16.0	0.0	0.1	0.0	6.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.71	0.00		0.00	0.87		0.13
Lane Grp Cap(c), veh/h	384	1844	0	827	906	847	0	384	0	410	0	0
V/C Ratio(X)	0.03	0.07	0.00	0.00	0.47	0.48	0.00	0.01	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	478	1844	0	922	906	847	0	384	0	410	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.6	7.6	0.0	7.6	10.8	10.8	0.0	28.6	0.0	30.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	1.8	1.9	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.7	0.0	0.0	6.9	6.5	0.0	0.1	0.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	8.6	7.7	0.0	7.6	12.6	12.7	0.0	28.6	0.0	32.3	0.0	0.0
LnGrp LOS	A	A		A	B	B		C		C		
Approach Vol, veh/h		142			834			3			104	
Approach Delay, s/veh		7.7			12.6			28.6			32.3	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	4.6	66.4		29.0	5.7	65.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	6.5	55.5		24.5	7.5	54.5
Max Q Clear Time (g_c+I1), s		2.1	2.0	3.8		8.0	2.3	18.0
Green Ext Time (p_c), s		0.5	0.0	8.0		0.4	0.0	7.7

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	407	0	0	196	186	1	1	0	278	5	7
Future Volume (veh/h)	9	407	0	0	196	186	1	1	0	278	5	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	10	442	0	0	213	202	1	1	0	302	5	8
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	1177	0	347	503	450	423	400	0	767	12	18
Arrive On Green	0.01	0.39	0.00	0.00	0.34	0.34	0.51	0.51	0.00	0.51	0.51	0.51
Sat Flow, veh/h	1494	3059	0	1494	1490	1333	716	777	0	1353	22	36
Grp Volume(v), veh/h	10	442	0	0	213	202	2	0	0	315	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	0	1494	1490	1333	1493	0	0	1411	0	0
Q Serve(g_s), s	0.4	10.5	0.0	0.0	11.0	11.8	0.0	0.0	0.0	13.9	0.0	0.0
Cycle Q Clear(g_c), s	0.4	10.5	0.0	0.0	11.0	11.8	0.1	0.0	0.0	13.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.50		0.00	0.96		0.03
Lane Grp Cap(c), veh/h	303	1177	0	347	503	450	823	0	0	797	0	0
V/C Ratio(X)	0.03	0.38	0.00	0.00	0.42	0.45	0.00	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	367	1177	0	420	503	450	823	0	0	797	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.9	21.5	0.0	0.0	25.6	25.8	11.8	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	2.6	3.2	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.4	0.0	0.0	4.9	4.7	0.0	0.0	0.0	5.7	0.0	0.0
LnGrp Delay(d),s/veh	21.0	22.4	0.0	0.0	28.2	29.0	11.8	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	C	C			C	C	B			B		
Approach Vol, veh/h		452			415			2			315	
Approach Delay, s/veh		22.4			28.6			11.8			16.6	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		56.0	0.0	44.0		56.0	5.7	38.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		51.5	5.0	30.0		51.5	5.5	29.5
Max Q Clear Time (g_c+I1), s		2.1	0.0	12.5		15.9	2.4	13.8
Green Ext Time (p_c), s		2.1	0.0	5.3		2.1	0.0	5.1

Intersection Summary	
HCM 2010 Ctrl Delay	23.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	121	0	1	503	336	0	3	0	208	0	13
Future Volume (veh/h)	9	121	0	1	503	336	0	3	0	208	0	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	10	132	0	1	547	365	0	3	0	226	0	14
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	1546	0	696	870	581	0	541	0	524	2	28
Arrive On Green	0.01	0.52	0.00	0.00	0.51	0.51	0.00	0.34	0.00	0.34	0.00	0.34
Sat Flow, veh/h	1494	3059	0	1494	1714	1143	0	1569	0	1317	5	82
Grp Volume(v), veh/h	10	132	0	1	476	436	0	3	0	240	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	0	1494	1490	1367	0	1569	0	1404	0	0
Q Serve(g_s), s	0.3	2.2	0.0	0.0	23.1	23.1	0.0	0.1	0.0	13.4	0.0	0.0
Cycle Q Clear(g_c), s	0.3	2.2	0.0	0.0	23.1	23.1	0.0	0.1	0.0	13.5	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.84	0.00		0.00	0.94		0.06
Lane Grp Cap(c), veh/h	259	1546	0	696	757	694	0	541	0	554	0	0
V/C Ratio(X)	0.04	0.09	0.00	0.00	0.63	0.63	0.00	0.01	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	323	1546	0	776	757	694	0	541	0	554	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.3	12.1	0.0	12.1	17.8	17.8	0.0	21.5	0.0	25.9	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	3.9	4.3	0.0	0.0	0.0	2.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.9	0.0	0.0	10.2	9.4	0.0	0.1	0.0	5.6	0.0	0.0
LnGrp Delay(d),s/veh	14.4	12.2	0.0	12.1	21.7	22.1	0.0	21.5	0.0	28.3	0.0	0.0
LnGrp LOS	B	B		B	C	C		C		C		
Approach Vol, veh/h		142			913			3			240	
Approach Delay, s/veh		12.4			21.9			21.5			28.3	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		39.0	4.6	56.4		39.0	5.7	55.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		34.5	5.5	46.5		34.5	5.5	46.5
Max Q Clear Time (g_c+I1), s		2.1	2.0	4.2		15.5	2.3	25.1
Green Ext Time (p_c), s		1.5	0.0	8.9		1.3	0.0	7.4

Intersection Summary	
HCM 2010 Ctrl Delay	22.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	407	0	0	196	374	1	1	0	434	5	7
Future Volume (veh/h)	9	407	0	0	196	374	1	1	0	434	5	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	10	442	0	0	213	407	1	1	0	472	5	8
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1058	0	302	444	397	455	432	0	833	8	13
Arrive On Green	0.01	0.35	0.00	0.00	0.30	0.30	0.56	0.56	0.00	0.56	0.56	0.56
Sat Flow, veh/h	1494	3059	0	1494	1490	1333	722	779	0	1373	15	23
Grp Volume(v), veh/h	10	442	0	0	213	407	2	0	0	485	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	0	1494	1490	1333	1501	0	0	1411	0	0
Q Serve(g_s), s	0.5	11.2	0.0	0.0	11.7	29.8	0.0	0.0	0.0	23.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	11.2	0.0	0.0	11.7	29.8	0.1	0.0	0.0	23.3	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.50		0.00	0.97		0.02
Lane Grp Cap(c), veh/h	90	1058	0	302	444	397	887	0	0	854	0	0
V/C Ratio(X)	0.11	0.42	0.00	0.00	0.48	1.02	0.00	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	151	1058	0	376	444	397	887	0	0	854	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.6	24.4	0.0	0.0	28.8	35.1	9.9	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	0.5	1.2	0.0	0.0	3.7	51.6	0.0	0.0	0.0	2.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.8	0.0	0.0	5.2	16.6	0.0	0.0	0.0	9.7	0.0	0.0
LnGrp Delay(d),s/veh	28.2	25.6	0.0	0.0	32.4	86.7	9.9	0.0	0.0	17.8	0.0	0.0
LnGrp LOS	C	C			C	F	A			B		
Approach Vol, veh/h		452			620			2			485	
Approach Delay, s/veh		25.7			68.1			9.9			17.8	
Approach LOS		C			E			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		60.0	0.0	40.0		60.0	5.7	34.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		55.5	5.0	26.0		55.5	5.3	25.7
Max Q Clear Time (g_c+I1), s		2.1	0.0	13.2		25.3	2.5	31.8
Green Ext Time (p_c), s		3.6	0.0	5.8		3.4	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		40.1
HCM 2010 LOS		D

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	64	228	859	10	9	134
Future Vol, veh/h	64	228	859	10	9	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	90	62	56	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	285	954	16	16	176

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	971	0	-	0	1266	485
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	303	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	706	-	-	-	161	528
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	723	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	706	-	-	-	143	528
Mov Cap-2 Maneuver	-	-	-	-	255	-
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	706	-	-	-	485
HCM Lane V/C Ratio	0.113	-	-	-	0.397
HCM Control Delay (s)	10.8	-	-	-	17.2
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	1.9

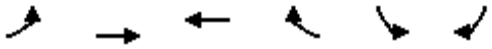
Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	143	716	353	15	16	75
Future Vol, veh/h	143	716	353	15	16	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	85	89	54	80	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	161	842	397	28	20	100

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	424	0	-	0	1154	212
Stage 1	-	-	-	-	411	-
Stage 2	-	-	-	-	743	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1132	-	-	-	190	793
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	431	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1132	-	-	-	163	793
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	370	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1132	-	-	-	607
HCM Lane V/C Ratio	0.142	-	-	-	0.198
HCM Control Delay (s)	8.7	-	-	-	12.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.7

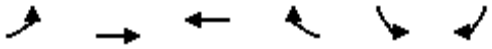


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	243	914	11	10	143
Future Volume (veh/h)	68	243	914	11	10	143
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1600	1569	1600
Adj Flow Rate, veh/h	85	304	1016	18	18	188
Adj No. of Lanes	1	2	2	0	0	0
Peak Hour Factor	0.80	0.80	0.90	0.62	0.56	0.76
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	463	2042	1782	32	26	275
Arrive On Green	0.05	0.69	1.00	1.00	0.22	0.22
Sat Flow, veh/h	1494	3059	3075	53	117	1223
Grp Volume(v), veh/h	85	304	505	529	207	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1490	1559	1347	0
Q Serve(g_s), s	2.1	3.6	0.0	0.0	14.1	0.0
Cycle Q Clear(g_c), s	2.1	3.6	0.0	0.0	14.1	0.0
Prop In Lane	1.00			0.03	0.09	0.91
Lane Grp Cap(c), veh/h	463	2042	886	927	303	0
V/C Ratio(X)	0.18	0.15	0.57	0.57	0.68	0.00
Avail Cap(c_a), veh/h	522	2042	886	927	303	0
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.83	0.83	1.00	0.00
Uniform Delay (d), s/veh	6.2	5.5	0.0	0.0	35.5	0.0
Incr Delay (d2), s/veh	0.2	0.2	2.2	2.1	11.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.5	0.5	0.5	6.2	0.0
LnGrp Delay(d),s/veh	6.3	5.7	2.2	2.1	47.3	0.0
LnGrp LOS	A	A	A	A	D	
Approach Vol, veh/h		389	1034		207	
Approach Delay, s/veh		5.8	2.2		47.3	
Approach LOS		A	A		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				73.0		27.0	9.0	64.0
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				68.5		22.5	8.5	55.5
Max Q Clear Time (g_c+I1), s				5.6		16.1	4.1	2.0
Green Ext Time (p_c), s				12.6		0.3	0.1	12.4

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Notes

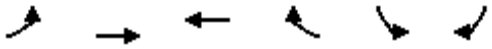


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	152	762	376	16	17	80
Future Volume (veh/h)	152	762	376	16	17	80
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1600	1569	1600
Adj Flow Rate, veh/h	171	896	422	30	21	107
Adj No. of Lanes	1	2	2	0	0	0
Peak Hour Factor	0.89	0.85	0.89	0.54	0.80	0.75
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	673	1922	1490	106	59	299
Arrive On Green	0.07	0.64	1.00	1.00	0.26	0.26
Sat Flow, veh/h	1494	3059	2902	200	221	1127
Grp Volume(v), veh/h	171	896	222	230	129	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1490	1533	1359	0
Q Serve(g_s), s	4.9	15.3	0.0	0.0	7.7	0.0
Cycle Q Clear(g_c), s	4.9	15.3	0.0	0.0	7.7	0.0
Prop In Lane	1.00			0.13	0.16	0.83
Lane Grp Cap(c), veh/h	673	1922	786	809	360	0
V/C Ratio(X)	0.25	0.47	0.28	0.28	0.36	0.00
Avail Cap(c_a), veh/h	887	1922	786	809	360	0
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.98	0.98	1.00	0.00
Uniform Delay (d), s/veh	8.2	9.0	0.0	0.0	29.8	0.0
Incr Delay (d2), s/veh	0.2	0.8	0.9	0.9	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	6.4	0.2	0.2	3.2	0.0
LnGrp Delay(d),s/veh	8.4	9.8	0.9	0.9	32.6	0.0
LnGrp LOS	A	A	A	A	C	
Approach Vol, veh/h		1067	452		129	
Approach Delay, s/veh		9.6	0.9		32.6	
Approach LOS		A	A		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				69.0		31.0	11.7	57.3
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				64.5		26.5	21.5	38.5
Max Q Clear Time (g_c+I1), s				17.3		9.7	6.9	2.0
Green Ext Time (p_c), s				12.7		0.3	0.4	11.9

Intersection Summary	
HCM 2010 Ctrl Delay	9.0
HCM 2010 LOS	A

Notes

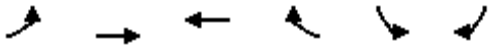


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	175	770	380	16	17	93
Future Volume (veh/h)	175	770	380	16	17	93
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1600	1569	1600
Adj Flow Rate, veh/h	197	906	427	30	21	124
Adj No. of Lanes	1	2	2	0	0	0
Peak Hour Factor	0.89	0.85	0.89	0.54	0.80	0.75
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	792	2329	1907	134	25	148
Arrive On Green	0.06	0.78	1.00	1.00	0.13	0.13
Sat Flow, veh/h	1494	3059	2904	198	195	1151
Grp Volume(v), veh/h	197	906	224	233	146	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1490	1534	1356	0
Q Serve(g_s), s	3.7	9.5	0.0	0.0	10.5	0.0
Cycle Q Clear(g_c), s	3.7	9.5	0.0	0.0	10.5	0.0
Prop In Lane	1.00			0.13	0.14	0.85
Lane Grp Cap(c), veh/h	792	2329	1006	1035	174	0
V/C Ratio(X)	0.25	0.39	0.22	0.22	0.84	0.00
Avail Cap(c_a), veh/h	1051	2329	1006	1035	346	0
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.83	0.83	0.88	0.00
Uniform Delay (d), s/veh	3.4	3.4	0.0	0.0	42.6	0.0
Incr Delay (d2), s/veh	0.2	0.5	0.4	0.4	9.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.1	0.1	0.1	4.4	0.0
LnGrp Delay(d),s/veh	3.6	3.9	0.4	0.4	51.6	0.0
LnGrp LOS	A	A	A	A	D	
Approach Vol, veh/h		1103	457		146	
Approach Delay, s/veh		3.9	0.4		51.6	
Approach LOS		A	A		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				82.6		17.4	10.7	72.0
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				65.5		25.5	23.5	37.5
Max Q Clear Time (g_c+I1), s				11.5		12.5	5.7	2.0
Green Ext Time (p_c), s				13.2		0.3	0.5	12.0

Intersection Summary	
HCM 2010 Ctrl Delay	7.0
HCM 2010 LOS	A

Notes

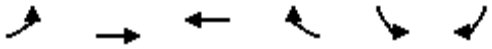


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	175	770	380	16	17	93
Future Volume (veh/h)	175	770	380	16	17	93
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1600	1569	1600
Adj Flow Rate, veh/h	197	906	427	30	21	124
Adj No. of Lanes	1	2	2	0	0	0
Peak Hour Factor	0.89	0.85	0.89	0.54	0.80	0.75
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	792	2329	1907	134	25	148
Arrive On Green	0.06	0.78	1.00	1.00	0.13	0.13
Sat Flow, veh/h	1494	3059	2904	198	195	1151
Grp Volume(v), veh/h	197	906	224	233	146	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1490	1534	1356	0
Q Serve(g_s), s	3.7	9.5	0.0	0.0	10.5	0.0
Cycle Q Clear(g_c), s	3.7	9.5	0.0	0.0	10.5	0.0
Prop In Lane	1.00			0.13	0.14	0.85
Lane Grp Cap(c), veh/h	792	2329	1006	1035	174	0
V/C Ratio(X)	0.25	0.39	0.22	0.22	0.84	0.00
Avail Cap(c_a), veh/h	1051	2329	1006	1035	346	0
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.98	0.98	0.90	0.00
Uniform Delay (d), s/veh	3.4	3.4	0.0	0.0	42.6	0.0
Incr Delay (d2), s/veh	0.2	0.5	0.5	0.5	9.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.1	0.1	0.1	4.4	0.0
LnGrp Delay(d),s/veh	3.6	3.9	0.5	0.5	51.8	0.0
LnGrp LOS	A	A	A	A	D	
Approach Vol, veh/h		1103	457		146	
Approach Delay, s/veh		3.9	0.5		51.8	
Approach LOS		A	A		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				82.6		17.4	10.7	72.0
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				65.5		25.5	23.5	37.5
Max Q Clear Time (g_c+I1), s				11.5		12.5	5.7	2.0
Green Ext Time (p_c), s				13.2		0.3	0.5	12.0

Intersection Summary	
HCM 2010 Ctrl Delay	7.1
HCM 2010 LOS	A

Notes

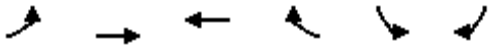


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	303	1143	13	12	178
Future Volume (veh/h)	85	303	1143	13	12	178
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1600	1569	1600
Adj Flow Rate, veh/h	92	329	1242	14	13	193
Adj No. of Lanes	1	2	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	298	2122	1874	21	17	248
Arrive On Green	0.05	0.71	0.62	0.62	0.20	0.20
Sat Flow, veh/h	1494	3059	3097	34	84	1253
Grp Volume(v), veh/h	92	329	613	643	207	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1490	1563	1343	0
Q Serve(g_s), s	2.1	3.6	26.5	26.5	14.6	0.0
Cycle Q Clear(g_c), s	2.1	3.6	26.5	26.5	14.6	0.0
Prop In Lane	1.00			0.02	0.06	0.93
Lane Grp Cap(c), veh/h	298	2122	925	970	266	0
V/C Ratio(X)	0.31	0.16	0.66	0.66	0.78	0.00
Avail Cap(c_a), veh/h	374	2122	925	970	266	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.4	4.7	12.2	12.2	38.0	0.0
Incr Delay (d2), s/veh	0.6	0.2	3.7	3.6	19.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.5	11.7	12.2	6.9	0.0
LnGrp Delay(d),s/veh	10.9	4.8	15.9	15.8	57.8	0.0
LnGrp LOS	B	A	B	B	E	
Approach Vol, veh/h		421	1256		207	
Approach Delay, s/veh		6.2	15.9		57.8	
Approach LOS		A	B		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				75.7		24.3	9.1	66.6
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				71.2		19.8	9.7	57.0
Max Q Clear Time (g_c+I1), s				5.6		16.6	4.1	28.5
Green Ext Time (p_c), s				17.3		0.2	0.1	13.4

Intersection Summary	
HCM 2010 Ctrl Delay	18.3
HCM 2010 LOS	B

Notes

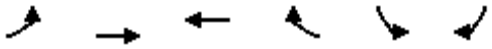


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	190	953	470	20	21	100
Future Volume (veh/h)	190	953	470	20	21	100
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1600	1569	1600
Adj Flow Rate, veh/h	207	1036	511	22	23	109
Adj No. of Lanes	1	2	2	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	586	2012	1599	69	55	262
Arrive On Green	0.08	0.68	0.55	0.55	0.23	0.23
Sat Flow, veh/h	1494	3059	2990	125	235	1115
Grp Volume(v), veh/h	207	1036	261	272	133	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1490	1547	1360	0
Q Serve(g_s), s	5.6	17.3	9.6	9.6	8.3	0.0
Cycle Q Clear(g_c), s	5.6	17.3	9.6	9.6	8.3	0.0
Prop In Lane	1.00			0.08	0.17	0.82
Lane Grp Cap(c), veh/h	586	2012	818	849	320	0
V/C Ratio(X)	0.35	0.51	0.32	0.32	0.42	0.00
Avail Cap(c_a), veh/h	786	2012	818	849	320	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.0	8.1	12.3	12.3	32.4	0.0
Incr Delay (d2), s/veh	0.4	0.9	1.0	1.0	4.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	7.3	4.2	4.3	3.5	0.0
LnGrp Delay(d),s/veh	8.4	9.0	13.3	13.3	36.4	0.0
LnGrp LOS	A	A	B	B	D	
Approach Vol, veh/h		1243	533		133	
Approach Delay, s/veh		8.9	13.3		36.4	
Approach LOS		A	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				72.0		28.0	12.6	59.4
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				67.5		23.5	21.5	41.5
Max Q Clear Time (g_c+I1), s				19.3		10.3	7.6	11.6
Green Ext Time (p_c), s				16.1		0.3	0.5	13.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Notes

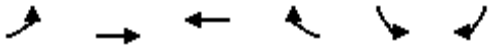


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	158	450	1393	13	12	303
Future Volume (veh/h)	158	450	1393	13	12	303
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1600	1569	1569
Adj Flow Rate, veh/h	172	489	1514	14	13	0
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	373	2167	1881	17	273	244
Arrive On Green	0.06	0.73	1.00	1.00	0.18	0.00
Sat Flow, veh/h	1494	3059	3104	28	1494	1333
Grp Volume(v), veh/h	172	489	745	783	13	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1490	1564	1494	1333
Q Serve(g_s), s	3.9	5.4	0.0	0.0	0.7	0.0
Cycle Q Clear(g_c), s	3.9	5.4	0.0	0.0	0.7	0.0
Prop In Lane	1.00			0.02	1.00	1.00
Lane Grp Cap(c), veh/h	373	2167	926	972	273	244
V/C Ratio(X)	0.46	0.23	0.80	0.81	0.05	0.00
Avail Cap(c_a), veh/h	455	2167	926	972	273	244
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.63	0.63	0.80	0.00
Uniform Delay (d), s/veh	5.1	4.5	0.0	0.0	33.7	0.0
Incr Delay (d2), s/veh	0.9	0.2	4.8	4.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.2	1.2	1.2	0.3	0.0
LnGrp Delay(d),s/veh	5.9	4.7	4.8	4.6	33.9	0.0
LnGrp LOS	A	A	A	A	C	
Approach Vol, veh/h		661	1528		13	
Approach Delay, s/veh		5.0	4.7		33.9	
Approach LOS		A	A		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				77.2		22.8	10.5	66.7
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				72.7		18.3	11.5	56.7
Max Q Clear Time (g_c+I1), s				7.4		2.7	5.9	2.0
Green Ext Time (p_c), s				27.6		0.0	0.2	25.8

Intersection Summary	
HCM 2010 Ctrl Delay	5.0
HCM 2010 LOS	A

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	378	1330	782	20	21	256
Future Volume (veh/h)	378	1330	782	20	21	256
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1600	1569	1569
Adj Flow Rate, veh/h	411	1446	850	22	23	0
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	628	2161	1586	41	276	247
Arrive On Green	0.15	0.73	1.00	1.00	0.19	0.00
Sat Flow, veh/h	1494	3059	3047	77	1494	1333
Grp Volume(v), veh/h	411	1446	427	445	23	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1490	1555	1494	1333
Q Serve(g_s), s	11.4	25.9	0.0	0.0	1.3	0.0
Cycle Q Clear(g_c), s	11.4	25.9	0.0	0.0	1.3	0.0
Prop In Lane	1.00			0.05	1.00	1.00
Lane Grp Cap(c), veh/h	628	2161	796	831	276	247
V/C Ratio(X)	0.65	0.67	0.54	0.54	0.08	0.00
Avail Cap(c_a), veh/h	851	2161	796	831	276	247
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.91	0.91	0.58	0.00
Uniform Delay (d), s/veh	6.3	7.3	0.0	0.0	33.7	0.0
Incr Delay (d2), s/veh	1.2	1.7	2.3	2.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	10.9	0.5	0.5	0.6	0.0
LnGrp Delay(d),s/veh	7.4	9.0	2.3	2.3	34.1	0.0
LnGrp LOS	A	A	A	A	C	
Approach Vol, veh/h		1857	872		23	
Approach Delay, s/veh		8.7	2.3		34.1	
Approach LOS		A	A		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				77.0		23.0	19.1	57.9
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				72.5		18.5	29.5	38.5
Max Q Clear Time (g_c+I1), s				27.9		3.3	13.4	2.0
Green Ext Time (p_c), s				27.9		0.0	1.2	24.6

Intersection Summary	
HCM 2010 Ctrl Delay	6.9
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	206	20	4	685	1	75	16	7	2	4	106
Future Vol, veh/h	23	206	20	4	685	1	75	16	7	2	4	106
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	150	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	79	62	33	87	25	69	67	44	50	100	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	261	32	12	787	4	109	24	16	4	4	128

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	791	0	0	261	0	0	745	1141	130	1020	1139	396
Stage 1	-	-	-	-	-	-	325	325	-	814	814	-
Stage 2	-	-	-	-	-	-	420	816	-	206	325	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	825	-	-	1300	-	-	302	199	896	191	200	603
Stage 1	-	-	-	-	-	-	661	648	-	338	390	-
Stage 2	-	-	-	-	-	-	581	389	-	777	648	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	825	-	-	1300	-	-	226	190	896	163	190	603
Mov Cap-2 Maneuver	-	-	-	-	-	-	226	190	-	163	190	-
Stage 1	-	-	-	-	-	-	635	623	-	325	386	-
Stage 2	-	-	-	-	-	-	449	385	-	705	623	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.1	42.3	14.2
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	238	825	-	-	1300	-	-	527
HCM Lane V/C Ratio	0.624	0.039	-	-	0.009	-	-	0.258
HCM Control Delay (s)	42.3	9.5	-	-	7.8	-	-	14.2
HCM Lane LOS	E	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	3.7	0.1	-	-	0	-	-	1

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	91	566	82	6	278	6	41	17	7	6	20	50
Future Vol, veh/h	91	566	82	6	278	6	41	17	7	6	20	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	150	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	87	77	38	88	75	68	42	58	38	71	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	128	651	106	16	316	8	60	40	12	16	28	60

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	324	0	0	651	0	0	1111	1262	325	953	1258	162
Stage 1	-	-	-	-	-	-	907	907	-	351	351	-
Stage 2	-	-	-	-	-	-	204	355	-	602	907	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1233	-	-	931	-	-	164	169	671	214	170	854
Stage 1	-	-	-	-	-	-	297	353	-	639	631	-
Stage 2	-	-	-	-	-	-	779	628	-	453	353	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1233	-	-	931	-	-	119	149	671	152	150	854
Mov Cap-2 Maneuver	-	-	-	-	-	-	119	149	-	152	150	-
Stage 1	-	-	-	-	-	-	266	316	-	573	620	-
Stage 2	-	-	-	-	-	-	679	617	-	348	316	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.4	90	24.4
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	142	1233	-	-	931	-	-	288
HCM Lane V/C Ratio	0.795	0.104	-	-	0.017	-	-	0.362
HCM Control Delay (s)	90	8.3	-	-	8.9	-	-	24.4
HCM Lane LOS	F	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	4.9	0.3	-	-	0.1	-	-	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	219	21	4	729	1	80	17	7	2	4	113
Future Volume (veh/h)	24	219	21	4	729	1	80	17	7	2	4	113
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	33	277	34	12	838	4	116	25	16	4	4	136
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.72	0.79	0.62	0.33	0.87	0.25	0.69	0.67	0.44	0.50	1.00	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	1597	714	647	1582	8	334	68	39	40	20	400
Arrive On Green	0.06	1.00	1.00	0.01	0.52	0.52	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1494	2980	1333	1494	3042	15	863	217	123	10	65	1269
Grp Volume(v), veh/h	33	277	34	12	411	431	157	0	0	144	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1566	1202	0	0	1343	0	0
Q Serve(g_s), s	1.0	0.0	0.0	0.4	18.3	18.3	3.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	0.0	0.4	18.3	18.3	12.0	0.0	0.0	8.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.74		0.10	0.03		0.94
Lane Grp Cap(c), veh/h	336	1597	714	647	775	814	441	0	0	460	0	0
V/C Ratio(X)	0.10	0.17	0.05	0.02	0.53	0.53	0.36	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	377	1597	714	707	775	814	441	0	0	460	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.7	0.0	0.0	10.9	15.9	15.9	27.8	0.0	0.0	26.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.1	0.0	2.6	2.5	2.2	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.1	0.0	0.2	8.1	8.5	3.8	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	11.9	0.2	0.1	10.9	18.5	18.4	30.1	0.0	0.0	28.0	0.0	0.0
LnGrp LOS	B	A	A	B	B	B	C			C		
Approach Vol, veh/h		344			854			157			144	
Approach Delay, s/veh		1.3			18.3			30.1			28.0	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		36.0	5.9	58.1		36.0	7.5	56.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		31.5	5.5	49.5		31.5	5.7	49.3
Max Q Clear Time (g_c+I1), s		14.0	2.4	2.0		10.2	3.0	20.3
Green Ext Time (p_c), s		1.7	0.0	9.4		1.9	0.0	8.5

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	602	87	6	296	6	44	18	7	6	21	53
Future Volume (veh/h)	97	602	87	6	296	6	44	18	7	6	21	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	137	692	110	16	336	8	65	43	12	16	30	64
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.71	0.87	0.79	0.38	0.88	0.75	0.68	0.42	0.58	0.38	0.71	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	659	1735	776	463	1604	38	242	147	37	74	123	216
Arrive On Green	0.12	1.00	1.00	0.02	0.54	0.54	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1494	2980	1333	1494	2976	71	705	555	140	124	463	817
Grp Volume(v), veh/h	137	692	110	16	168	176	120	0	0	110	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1556	1399	0	0	1404	0	0
Q Serve(g_s), s	4.0	0.0	0.0	0.5	5.9	5.9	0.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	0.0	0.5	5.9	5.9	6.7	0.0	0.0	6.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.05	0.54		0.10	0.15		0.58
Lane Grp Cap(c), veh/h	659	1735	776	463	803	839	426	0	0	413	0	0
V/C Ratio(X)	0.21	0.40	0.14	0.03	0.21	0.21	0.28	0.00	0.00	0.27	0.00	0.00
Avail Cap(c_a), veh/h	814	1735	776	548	803	839	426	0	0	413	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	9.9	12.0	12.0	29.4	0.0	0.0	29.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.6	0.3	0.0	0.6	0.6	1.6	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.1	0.1	0.2	2.5	2.6	2.9	0.0	0.0	2.6	0.0	0.0
LnGrp Delay(d),s/veh	8.0	0.6	0.3	10.0	12.6	12.6	31.1	0.0	0.0	30.8	0.0	0.0
LnGrp LOS	A	A	A	A	B	B	C			C		
Approach Vol, veh/h		939			360			120			110	
Approach Delay, s/veh		1.7			12.4			31.1			30.8	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		31.0	6.3	62.7		31.0	10.6	58.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		26.5	7.5	52.5		26.5	16.5	43.5
Max Q Clear Time (g_c+I1), s		8.7	2.5	2.0		8.2	6.0	7.9
Green Ext Time (p_c), s		1.2	0.0	9.3		1.2	0.2	8.8

Intersection Summary	
HCM 2010 Ctrl Delay	8.6
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	219	21	4	729	1	80	17	7	2	4	120
Future Volume (veh/h)	26	219	21	4	729	1	80	17	7	2	4	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	36	277	34	12	838	4	116	25	16	4	4	145
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.72	0.79	0.62	0.33	0.87	0.25	0.69	0.67	0.44	0.50	1.00	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	337	1597	714	645	1577	8	328	67	38	40	19	401
Arrive On Green	0.06	1.00	1.00	0.01	0.52	0.52	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1494	2980	1333	1494	3042	15	842	213	120	9	61	1272
Grp Volume(v), veh/h	36	277	34	12	411	431	157	0	0	153	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1566	1175	0	0	1343	0	0
Q Serve(g_s), s	1.1	0.0	0.0	0.4	18.3	18.3	3.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	0.4	18.3	18.3	12.6	0.0	0.0	8.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.74		0.10	0.03		0.95
Lane Grp Cap(c), veh/h	337	1597	714	645	773	812	433	0	0	460	0	0
V/C Ratio(X)	0.11	0.17	0.05	0.02	0.53	0.53	0.36	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	375	1597	714	706	773	812	433	0	0	460	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.7	0.0	0.0	11.0	16.0	16.0	28.1	0.0	0.0	26.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.1	0.0	2.6	2.5	2.4	0.0	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.2	8.1	8.5	3.8	0.0	0.0	3.5	0.0	0.0
LnGrp Delay(d),s/veh	11.9	0.2	0.1	11.0	18.6	18.5	30.4	0.0	0.0	28.4	0.0	0.0
LnGrp LOS	B	A	A	B	B	B	C			C		
Approach Vol, veh/h		347			854			157			153	
Approach Delay, s/veh		1.4			18.4			30.4			28.4	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		36.0	5.9	58.1		36.0	7.7	56.3
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		31.5	5.5	49.5		31.5	5.7	49.3
Max Q Clear Time (g_c+I1), s		14.6	2.4	2.0		10.8	3.1	20.3
Green Ext Time (p_c), s		1.8	0.0	9.4		1.9	0.0	8.5

Intersection Summary	
HCM 2010 Ctrl Delay	16.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	602	87	6	296	6	44	18	7	6	21	57
Future Volume (veh/h)	105	602	87	6	296	6	44	18	7	6	21	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	148	692	110	16	336	8	65	43	12	16	30	69
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.71	0.87	0.79	0.38	0.88	0.75	0.68	0.42	0.58	0.38	0.71	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	660	1735	776	460	1591	38	240	146	37	72	118	223
Arrive On Green	0.13	1.00	1.00	0.02	0.53	0.53	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1494	2980	1333	1494	2976	71	698	550	139	115	445	841
Grp Volume(v), veh/h	148	692	110	16	168	176	120	0	0	115	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1556	1387	0	0	1401	0	0
Q Serve(g_s), s	4.4	0.0	0.0	0.5	5.9	5.9	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.4	0.0	0.0	0.5	5.9	5.9	6.9	0.0	0.0	6.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.05	0.54		0.10	0.14		0.60
Lane Grp Cap(c), veh/h	660	1735	776	460	797	832	423	0	0	412	0	0
V/C Ratio(X)	0.22	0.40	0.14	0.03	0.21	0.21	0.28	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	824	1735	776	545	797	832	423	0	0	412	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	10.1	12.2	12.2	29.5	0.0	0.0	29.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.6	0.4	0.0	0.6	0.6	1.7	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.2	0.1	0.2	2.6	2.7	2.9	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	8.0	0.6	0.4	10.1	12.8	12.8	31.2	0.0	0.0	31.1	0.0	0.0
LnGrp LOS	A	A	A	B	B	B	C			C		
Approach Vol, veh/h		950			360			120			115	
Approach Delay, s/veh		1.7			12.7			31.2			31.1	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		31.0	6.3	62.7		31.0	11.0	58.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		26.5	7.5	52.5		26.5	17.5	42.5
Max Q Clear Time (g_c+I1), s		8.9	2.5	2.0		8.5	6.4	7.9
Green Ext Time (p_c), s		1.2	0.0	9.3		1.3	0.3	8.8

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	274	27	5	912	1	100	21	9	3	5	141
Future Volume (veh/h)	31	274	27	5	912	1	100	21	9	3	5	141
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	34	298	29	5	991	1	109	23	10	3	5	153
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	1679	751	622	1648	2	310	61	23	38	18	376
Arrive On Green	0.03	0.56	0.56	0.01	0.54	0.54	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1494	2980	1333	1494	3055	3	834	206	79	6	61	1276
Grp Volume(v), veh/h	34	298	29	5	483	509	142	0	0	161	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1568	1118	0	0	1343	0	0
Q Serve(g_s), s	1.0	4.8	1.0	0.2	22.1	22.1	3.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	4.8	1.0	0.2	22.1	22.1	12.9	0.0	0.0	9.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.77		0.07	0.02		0.95
Lane Grp Cap(c), veh/h	298	1679	751	622	804	846	393	0	0	433	0	0
V/C Ratio(X)	0.11	0.18	0.04	0.01	0.60	0.60	0.36	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	334	1679	751	694	804	846	393	0	0	433	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.1	10.6	9.7	10.4	15.7	15.7	29.8	0.0	0.0	28.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.1	0.0	3.3	3.2	2.6	0.0	0.0	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.0	0.4	0.1	9.7	10.2	3.6	0.0	0.0	3.8	0.0	0.0
LnGrp Delay(d),s/veh	12.2	10.8	9.8	10.4	19.0	18.9	32.4	0.0	0.0	30.7	0.0	0.0
LnGrp LOS	B	B	A	B	B	B	C			C		
Approach Vol, veh/h		361			997			142			161	
Approach Delay, s/veh		10.9			18.9			32.4			30.7	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.0	5.1	60.9		34.0	7.6	58.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.5	5.5	51.5		29.5	5.5	51.5
Max Q Clear Time (g_c+I1), s		14.9	2.2	6.8		11.6	3.0	24.1
Green Ext Time (p_c), s		1.6	0.0	11.5		1.8	0.0	10.1

Intersection Summary	
HCM 2010 Ctrl Delay	19.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	753	109	8	370	8	55	23	9	8	27	67
Future Volume (veh/h)	121	753	109	8	370	8	55	23	9	8	27	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	132	818	118	9	402	9	60	25	10	9	29	73
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	637	1815	812	363	1684	38	254	98	34	50	106	226
Arrive On Green	0.06	0.61	0.61	0.01	0.56	0.56	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1494	2980	1333	1494	2980	67	798	398	141	45	434	920
Grp Volume(v), veh/h	132	818	118	9	201	210	95	0	0	111	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1557	1336	0	0	1400	0	0
Q Serve(g_s), s	3.5	14.8	3.8	0.3	6.8	6.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	14.8	3.8	0.3	6.8	6.8	6.0	0.0	0.0	6.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	0.63		0.11	0.08		0.66
Lane Grp Cap(c), veh/h	637	1815	812	363	842	880	386	0	0	382	0	0
V/C Ratio(X)	0.21	0.45	0.15	0.02	0.24	0.24	0.25	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	726	1815	812	459	842	880	386	0	0	382	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.6	10.5	8.4	9.6	10.9	10.9	30.7	0.0	0.0	30.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.8	0.4	0.0	0.7	0.6	1.5	0.0	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	6.2	1.5	0.1	2.9	3.1	2.3	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	7.7	11.4	8.8	9.6	11.6	11.6	32.2	0.0	0.0	32.9	0.0	0.0
LnGrp LOS	A	B	A	A	B	B	C			C		
Approach Vol, veh/h		1068			420			95			111	
Approach Delay, s/veh		10.6			11.6			32.2			32.9	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.0	5.6	65.4		29.0	10.0	61.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		24.5	7.5	54.5		24.5	11.5	50.5
Max Q Clear Time (g_c+I1), s		8.0	2.3	16.8		8.5	5.5	8.8
Green Ext Time (p_c), s		1.0	0.0	11.2		1.0	0.2	11.5

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	413	27	5	1150	1	100	21	9	3	5	154
Future Volume (veh/h)	38	413	27	5	1150	1	100	21	9	3	5	154
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	41	449	29	5	1250	1	109	23	10	3	5	167
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	1769	791	598	1730	1	266	51	19	38	15	339
Arrive On Green	0.07	1.00	1.00	0.01	0.57	0.57	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1494	2980	1333	1494	3056	2	762	194	72	6	56	1281
Grp Volume(v), veh/h	41	449	29	5	610	641	142	0	0	175	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1568	1029	0	0	1342	0	0
Q Serve(g_s), s	1.1	0.0	0.0	0.1	30.0	30.0	3.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	0.1	30.0	30.0	14.9	0.0	0.0	11.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.77		0.07	0.02		0.95
Lane Grp Cap(c), veh/h	240	1769	791	598	843	888	336	0	0	392	0	0
V/C Ratio(X)	0.17	0.25	0.04	0.01	0.72	0.72	0.42	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	266	1769	791	665	843	888	336	0	0	392	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	9.2	15.9	15.9	33.1	0.0	0.0	31.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.3	0.1	0.0	5.3	5.1	3.9	0.0	0.0	3.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1	0.0	0.1	13.4	14.1	3.8	0.0	0.0	4.5	0.0	0.0
LnGrp Delay(d),s/veh	13.0	0.3	0.1	9.2	21.3	21.0	37.0	0.0	0.0	34.7	0.0	0.0
LnGrp LOS	B	A	A	A	C	C	D			C		
Approach Vol, veh/h		519			1256			142			175	
Approach Delay, s/veh		1.3			21.1			37.0			34.7	
Approach LOS		A			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		31.0	5.1	63.9		31.0	7.9	61.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		26.5	5.1	54.9		26.5	5.1	54.9
Max Q Clear Time (g_c+I1), s		16.9	2.1	2.0		13.0	3.1	32.0
Green Ext Time (p_c), s		1.4	0.0	18.7		1.6	0.0	12.9

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1111	109	8	667	8	55	23	9	8	27	83
Future Volume (veh/h)	140	1111	109	8	667	8	55	23	9	8	27	83
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	152	1208	118	9	725	9	60	25	10	9	29	90
Adj No. of Lanes	1	2	1	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	511	1964	879	340	1845	23	200	75	25	46	73	191
Arrive On Green	0.12	1.00	1.00	0.01	0.61	0.61	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1494	2980	1333	1494	3015	37	723	384	130	39	373	978
Grp Volume(v), veh/h	152	1208	118	9	358	376	95	0	0	128	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1333	1494	1490	1562	1236	0	0	1390	0	0
Q Serve(g_s), s	3.7	0.0	0.0	0.2	12.3	12.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.7	0.0	0.0	0.2	12.3	12.3	7.7	0.0	0.0	8.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.63		0.11	0.07		0.70
Lane Grp Cap(c), veh/h	511	1964	879	340	912	956	300	0	0	310	0	0
V/C Ratio(X)	0.30	0.62	0.13	0.03	0.39	0.39	0.32	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	596	1964	879	406	912	956	300	0	0	310	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.2	0.0	0.0	7.2	9.9	9.9	35.3	0.0	0.0	35.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.0	0.2	0.0	1.3	1.2	2.8	0.0	0.0	4.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.3	0.1	0.1	5.3	5.5	2.6	0.0	0.0	3.5	0.0	0.0
LnGrp Delay(d),s/veh	6.5	1.0	0.2	7.2	11.2	11.1	38.0	0.0	0.0	39.7	0.0	0.0
LnGrp LOS	A	A	A	A	B	B	D			D		
Approach Vol, veh/h		1478			743			95			128	
Approach Delay, s/veh		1.5			11.1			38.0			39.7	
Approach LOS		A			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		24.0	5.6	70.4		24.0	10.3	65.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		19.5	5.5	61.5		19.5	11.5	55.5
Max Q Clear Time (g_c+I1), s		9.7	2.2	2.0		10.1	5.7	14.3
Green Ext Time (p_c), s		0.9	0.0	25.4		0.8	0.2	21.7

Intersection Summary	
HCM 2010 Ctrl Delay	7.9
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	119	31	3	502	33	46	49	3	4	29	131
Future Vol, veh/h	32	119	31	3	502	33	46	49	3	4	29	131
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	375	-	375	375	-	375	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	68	48	38	85	59	77	68	75	50	60	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	175	65	8	591	56	60	72	4	8	48	177

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	591	0	0	175	0	0	974	861	175	899	861	591
Stage 1	-	-	-	-	-	-	255	255	-	606	606	-
Stage 2	-	-	-	-	-	-	719	606	-	293	255	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	985	-	-	1401	-	-	231	293	868	260	293	507
Stage 1	-	-	-	-	-	-	749	696	-	484	487	-
Stage 2	-	-	-	-	-	-	420	487	-	715	696	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	985	-	-	1401	-	-	126	279	868	200	279	507
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	279	-	200	279	-
Stage 1	-	-	-	-	-	-	719	668	-	464	484	-
Stage 2	-	-	-	-	-	-	245	484	-	609	668	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.1	37.3	24.3
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	126	289	985	-	-	1401	-	-	415
HCM Lane V/C Ratio	0.474	0.263	0.041	-	-	0.006	-	-	0.562
HCM Control Delay (s)	57	21.8	8.8	-	-	7.6	-	-	24.3
HCM Lane LOS	F	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2.1	1	0.1	-	-	0	-	-	3.4

Intersection	
Int Delay, s/veh	16.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	86	392	67	30	178	4	31	58	6	17	71	53
Future Vol, veh/h	86	392	67	30	178	4	31	58	6	17	71	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	375	-	375	375	-	375	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	93	93	33	97	68	78	81	50	61	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	128	422	72	91	184	6	40	72	12	28	96	72

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	184	0	0	422	0	0	1127	1043	422	1085	1043	184
Stage 1	-	-	-	-	-	-	678	678	-	365	365	-
Stage 2	-	-	-	-	-	-	449	365	-	720	678	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1391	-	-	1137	-	-	182	229	632	194	229	858
Stage 1	-	-	-	-	-	-	442	452	-	654	623	-
Stage 2	-	-	-	-	-	-	589	623	-	419	452	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1391	-	-	1137	-	-	89	191	632	119	191	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	89	191	-	119	191	-
Stage 1	-	-	-	-	-	-	401	410	-	594	573	-
Stage 2	-	-	-	-	-	-	413	573	-	308	410	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	2.7	46.2	64.8
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	89	212	1391	-	-	1137	-	-	238
HCM Lane V/C Ratio	0.447	0.394	0.092	-	-	0.08	-	-	0.821
HCM Control Delay (s)	74.7	32.6	7.9	-	-	8.4	-	-	64.8
HCM Lane LOS	F	D	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.9	1.8	0.3	-	-	0.3	-	-	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	127	33	3	534	35	49	52	3	4	31	139
Future Volume (veh/h)	34	127	33	3	534	35	49	52	3	4	31	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1600	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	42	187	69	8	628	59	64	76	4	8	52	188
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.80	0.68	0.48	0.38	0.85	0.59	0.77	0.68	0.75	0.50	0.60	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	384	1120	400	616	1365	128	207	222	11	42	107	351
Arrive On Green	0.03	0.52	0.52	0.01	0.50	0.50	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1494	2154	769	1494	2755	258	462	662	32	15	319	1047
Grp Volume(v), veh/h	42	127	129	8	339	348	144	0	0	248	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1433	1494	1490	1523	1157	0	0	1381	0	0
Q Serve(g_s), s	1.4	4.5	4.7	0.3	14.9	14.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.4	4.5	4.7	0.3	14.9	14.9	11.8	0.0	0.0	14.5	0.0	0.0
Prop In Lane	1.00		0.54	1.00		0.17	0.44		0.03	0.03		0.76
Lane Grp Cap(c), veh/h	384	775	745	616	738	755	440	0	0	500	0	0
V/C Ratio(X)	0.11	0.16	0.17	0.01	0.46	0.46	0.33	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	445	775	745	698	738	755	440	0	0	500	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	12.6	12.7	12.3	16.5	16.5	25.4	0.0	0.0	26.9	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.5	0.0	2.1	2.0	2.0	0.0	0.0	3.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.9	2.0	0.1	6.5	6.7	3.4	0.0	0.0	6.0	0.0	0.0
LnGrp Delay(d),s/veh	12.7	13.1	13.2	12.3	18.5	18.5	27.4	0.0	0.0	30.4	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	C			C		
Approach Vol, veh/h		298			695			144			248	
Approach Delay, s/veh		13.0			18.4			27.4			30.4	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		38.0	5.5	56.5		38.0	7.9	54.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		33.5	6.5	46.5		33.5	7.5	45.5
Max Q Clear Time (g_c+I1), s		13.8	2.3	6.7		16.5	3.4	16.9
Green Ext Time (p_c), s		2.4	0.0	7.0		2.3	0.0	6.6

Intersection Summary	
HCM 2010 Ctrl Delay	20.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	417	71	32	189	4	33	62	6	18	76	56
Future Volume (veh/h)	92	417	71	32	189	4	33	62	6	18	76	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	137	448	76	97	195	6	42	77	12	30	103	76
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	0	1	0
Peak Hour Factor	0.67	0.93	0.93	0.33	0.97	0.68	0.78	0.81	0.50	0.61	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	573	1005	170	387	1107	34	463	550	86	88	263	177
Arrive On Green	0.07	0.39	0.39	0.06	0.38	0.38	0.03	0.41	0.41	0.34	0.34	0.34
Sat Flow, veh/h	1494	2552	430	1494	2952	91	1494	1326	207	138	783	526
Grp Volume(v), veh/h	137	260	264	97	98	103	42	0	89	209	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1493	1494	1490	1553	1494	0	1532	1448	0	0
Q Serve(g_s), s	5.6	12.8	13.0	3.9	4.4	4.4	1.8	0.0	3.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.6	12.8	13.0	3.9	4.4	4.4	1.8	0.0	3.6	11.0	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.06	1.00		0.13	0.14		0.36
Lane Grp Cap(c), veh/h	573	587	588	387	559	582	463	0	636	527	0	0
V/C Ratio(X)	0.24	0.44	0.45	0.25	0.18	0.18	0.09	0.00	0.14	0.40	0.00	0.00
Avail Cap(c_a), veh/h	633	587	588	460	559	582	508	0	636	527	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.8	22.3	22.3	18.0	20.9	20.9	19.1	0.0	18.2	25.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	2.4	2.5	0.3	0.7	0.7	0.1	0.0	0.5	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.7	5.7	1.7	1.9	2.0	0.7	0.0	1.6	4.8	0.0	0.0
LnGrp Delay(d),s/veh	17.0	24.7	24.8	18.3	21.6	21.6	19.2	0.0	18.6	27.9	0.0	0.0
LnGrp LOS	B	C	C	B	C	C	B		B	C		
Approach Vol, veh/h		661			298			131			209	
Approach Delay, s/veh		23.1			20.5			18.8			27.9	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		46.0	10.1	43.9	7.9	38.1	12.0	42.0
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		41.5	10.5	34.5	6.5	30.5	11.5	33.5
Max Q Clear Time (g_c+I1), s		5.6	5.9	15.0	3.8	13.0	7.6	6.4
Green Ext Time (p_c), s		1.9	0.1	4.3	0.0	1.6	0.1	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	22.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	127	33	3	534	35	49	52	3	4	31	139
Future Volume (veh/h)	34	127	33	3	534	35	49	52	3	4	31	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	42	187	69	8	628	59	64	76	4	8	52	188
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	0	1	0
Peak Hour Factor	0.80	0.68	0.48	0.38	0.85	0.59	0.77	0.68	0.75	0.50	0.60	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	325	991	354	542	1200	113	373	583	31	42	98	323
Arrive On Green	0.03	0.46	0.46	0.01	0.44	0.44	0.04	0.40	0.40	0.31	0.31	0.31
Sat Flow, veh/h	1494	2154	769	1494	2755	258	1494	1477	78	15	319	1047
Grp Volume(v), veh/h	42	127	129	8	339	348	64	0	80	248	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1433	1494	1490	1523	1494	0	1555	1381	0	0
Q Serve(g_s), s	1.5	5.0	5.3	0.3	16.6	16.7	2.8	0.0	3.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.5	5.0	5.3	0.3	16.6	16.7	2.8	0.0	3.3	15.1	0.0	0.0
Prop In Lane	1.00		0.54	1.00		0.17	1.00		0.05	0.03		0.76
Lane Grp Cap(c), veh/h	325	686	659	542	649	663	373	0	614	463	0	0
V/C Ratio(X)	0.13	0.19	0.20	0.01	0.52	0.52	0.17	0.00	0.13	0.54	0.00	0.00
Avail Cap(c_a), veh/h	359	686	659	609	649	663	423	0	614	463	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.9	15.9	16.0	15.5	20.6	20.6	20.7	0.0	19.3	29.1	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.6	0.7	0.0	3.0	2.9	0.2	0.0	0.4	4.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.2	2.2	0.1	7.3	7.5	1.2	0.0	1.5	6.4	0.0	0.0
LnGrp Delay(d),s/veh	16.1	16.5	16.7	15.5	23.6	23.6	20.9	0.0	19.7	33.5	0.0	0.0
LnGrp LOS	B	B	B	B	C	C	C		B	C		
Approach Vol, veh/h		298			695			144			248	
Approach Delay, s/veh		16.5			23.5			20.3			33.5	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		44.0	5.5	50.5	8.7	35.3	7.9	48.1
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		39.5	5.5	41.5	7.5	27.5	5.7	41.3
Max Q Clear Time (g_c+I1), s		5.3	2.3	7.3	4.8	17.1	3.5	18.7
Green Ext Time (p_c), s		2.2	0.0	6.8	0.0	1.4	0.0	6.2

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	417	71	32	189	4	33	62	6	18	76	56
Future Volume (veh/h)	92	417	71	32	189	4	33	62	6	18	76	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	137	448	76	97	195	6	42	77	12	30	103	76
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	0	1	0
Peak Hour Factor	0.67	0.93	0.93	0.33	0.97	0.68	0.78	0.81	0.50	0.61	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	573	1005	170	387	1107	34	463	550	86	88	263	177
Arrive On Green	0.07	0.39	0.39	0.06	0.38	0.38	0.03	0.41	0.41	0.34	0.34	0.34
Sat Flow, veh/h	1494	2552	430	1494	2952	91	1494	1326	207	138	783	526
Grp Volume(v), veh/h	137	260	264	97	98	103	42	0	89	209	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1493	1494	1490	1553	1494	0	1532	1448	0	0
Q Serve(g_s), s	5.6	12.8	13.0	3.9	4.4	4.4	1.8	0.0	3.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.6	12.8	13.0	3.9	4.4	4.4	1.8	0.0	3.6	11.0	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.06	1.00		0.13	0.14		0.36
Lane Grp Cap(c), veh/h	573	587	588	387	559	582	463	0	636	527	0	0
V/C Ratio(X)	0.24	0.44	0.45	0.25	0.18	0.18	0.09	0.00	0.14	0.40	0.00	0.00
Avail Cap(c_a), veh/h	633	587	588	460	559	582	508	0	636	527	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.8	22.3	22.3	18.0	20.9	20.9	19.1	0.0	18.2	25.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	2.4	2.5	0.3	0.7	0.7	0.1	0.0	0.5	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.7	5.7	1.7	1.9	2.0	0.7	0.0	1.6	4.8	0.0	0.0
LnGrp Delay(d),s/veh	17.0	24.7	24.8	18.3	21.6	21.6	19.2	0.0	18.6	27.9	0.0	0.0
LnGrp LOS	B	C	C	B	C	C	B		B	C		
Approach Vol, veh/h		661			298			131			209	
Approach Delay, s/veh		23.1			20.5			18.8			27.9	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		46.0	10.1	43.9	7.9	38.1	12.0	42.0
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		41.5	10.5	34.5	6.5	30.5	11.5	33.5
Max Q Clear Time (g_c+I1), s		5.6	5.9	15.0	3.8	13.0	7.6	6.4
Green Ext Time (p_c), s		1.9	0.1	4.3	0.0	1.6	0.1	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	22.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	158	41	4	668	44	61	65	4	5	39	174
Future Volume (veh/h)	43	158	41	4	668	44	61	65	4	5	39	174
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	47	172	45	4	726	48	66	71	4	5	42	189
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	1164	297	606	1316	87	340	537	30	39	73	305
Arrive On Green	0.04	0.49	0.49	0.01	0.46	0.46	0.04	0.37	0.37	0.28	0.28	0.28
Sat Flow, veh/h	1494	2353	600	1494	2838	188	1494	1471	83	8	265	1100
Grp Volume(v), veh/h	47	107	110	4	381	393	66	0	75	236	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1463	1494	1490	1536	1494	0	1554	1373	0	0
Q Serve(g_s), s	1.6	3.9	4.1	0.1	18.4	18.5	3.1	0.0	3.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.6	3.9	4.1	0.1	18.4	18.5	3.1	0.0	3.2	15.0	0.0	0.0
Prop In Lane	1.00		0.41	1.00		0.12	1.00		0.05	0.02		0.80
Lane Grp Cap(c), veh/h	320	737	724	606	691	712	340	0	567	418	0	0
V/C Ratio(X)	0.15	0.15	0.15	0.01	0.55	0.55	0.19	0.00	0.13	0.57	0.00	0.00
Avail Cap(c_a), veh/h	367	737	724	680	691	712	389	0	567	418	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.5	13.8	13.8	14.2	19.3	19.3	22.8	0.0	21.2	31.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.4	0.4	0.0	3.2	3.1	0.3	0.0	0.5	5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.7	1.7	0.1	8.1	8.4	1.3	0.0	1.5	6.3	0.0	0.0
LnGrp Delay(d),s/veh	14.7	14.2	14.2	14.2	22.5	22.4	23.1	0.0	21.7	37.0	0.0	0.0
LnGrp LOS	B	B	B	B	C	C	C		C	D		
Approach Vol, veh/h		264			778			141			236	
Approach Delay, s/veh		14.3			22.4			22.3			37.0	
Approach LOS		B			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		41.0	5.0	54.0	8.8	32.2	8.1	50.9
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		36.5	5.5	44.5	7.5	24.5	6.8	43.2
Max Q Clear Time (g_c+I1), s		5.2	2.1	6.1	5.1	17.0	3.6	20.5
Green Ext Time (p_c), s		2.1	0.0	7.5	0.0	1.1	0.0	6.6

Intersection Summary	
HCM 2010 Ctrl Delay	23.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	522	89	40	237	5	41	77	8	23	94	71
Future Volume (veh/h)	114	522	89	40	237	5	41	77	8	23	94	71
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	124	567	97	43	258	5	45	84	9	25	102	77
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	569	1134	193	344	1240	24	423	536	57	72	243	167
Arrive On Green	0.07	0.45	0.45	0.03	0.41	0.41	0.04	0.38	0.38	0.30	0.30	0.30
Sat Flow, veh/h	1494	2548	435	1494	2991	58	1494	1393	149	105	798	547
Grp Volume(v), veh/h	124	331	333	43	128	135	45	0	93	204	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1492	1494	1490	1558	1494	0	1542	1450	0	0
Q Serve(g_s), s	4.7	15.8	15.9	1.6	5.5	5.5	2.0	0.0	3.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.7	15.8	15.9	1.6	5.5	5.5	2.0	0.0	3.9	11.2	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.04	1.00		0.10	0.12		0.38
Lane Grp Cap(c), veh/h	569	663	664	344	618	646	423	0	594	482	0	0
V/C Ratio(X)	0.22	0.50	0.50	0.13	0.21	0.21	0.11	0.00	0.16	0.42	0.00	0.00
Avail Cap(c_a), veh/h	628	663	664	389	618	646	467	0	594	482	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.6	19.8	19.8	16.5	18.7	18.8	21.1	0.0	20.1	28.1	0.0	0.0
Incr Delay (d2), s/veh	0.2	2.7	2.7	0.2	0.8	0.7	0.1	0.0	0.6	2.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	7.0	7.1	0.7	2.4	2.5	0.8	0.0	1.8	4.9	0.0	0.0
LnGrp Delay(d),s/veh	14.8	22.5	22.5	16.6	19.5	19.5	21.2	0.0	20.7	30.8	0.0	0.0
LnGrp LOS	B	C	C	B	B	B	C		C	C		
Approach Vol, veh/h		788			306			138			204	
Approach Delay, s/veh		21.3			19.1			20.9			30.8	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		43.0	8.0	49.0	8.1	34.9	11.0	46.0
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		38.5	6.5	41.5	6.5	27.5	10.5	37.5
Max Q Clear Time (g_c+I1), s		5.9	3.6	17.9	4.0	13.2	6.7	7.5
Green Ext Time (p_c), s		1.9	0.0	6.1	0.0	1.5	0.1	6.5

Intersection Summary	
HCM 2010 Ctrl Delay	22.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	158	41	4	668	44	61	65	4	5	39	412
Future Volume (veh/h)	182	158	41	4	668	44	61	65	4	5	39	412
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	198	172	45	4	726	48	66	71	4	5	42	448
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	353	1164	297	549	1147	76	131	537	30	38	45	447
Arrive On Green	0.10	0.49	0.49	0.01	0.40	0.40	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1494	2353	600	1494	2838	188	903	1471	83	4	125	1224
Grp Volume(v), veh/h	198	107	110	4	381	393	66	0	75	495	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1463	1494	1490	1536	903	0	1554	1352	0	0
Q Serve(g_s), s	7.3	3.9	4.1	0.2	20.5	20.5	0.0	0.0	3.2	10.0	0.0	0.0
Cycle Q Clear(g_c), s	7.3	3.9	4.1	0.2	20.5	20.5	36.5	0.0	3.2	36.5	0.0	0.0
Prop In Lane	1.00		0.41	1.00		0.12	1.00		0.05	0.01		0.91
Lane Grp Cap(c), veh/h	353	737	724	549	602	621	131	0	567	530	0	0
V/C Ratio(X)	0.56	0.15	0.15	0.01	0.63	0.63	0.50	0.00	0.13	0.93	0.00	0.00
Avail Cap(c_a), veh/h	442	737	724	617	602	621	131	0	567	530	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.74	0.00	0.00
Uniform Delay (d), s/veh	16.8	13.8	13.8	17.5	23.8	23.8	33.7	0.0	21.2	31.8	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.4	0.4	0.0	5.0	4.9	13.1	0.0	0.5	20.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.7	1.7	0.1	9.2	9.5	2.3	0.0	1.5	16.7	0.0	0.0
LnGrp Delay(d),s/veh	18.2	14.2	14.2	17.5	28.8	28.7	46.8	0.0	21.7	52.7	0.0	0.0
LnGrp LOS	B	B	B	B	C	C	D		C	D		
Approach Vol, veh/h		415			778			141			495	
Approach Delay, s/veh		16.1			28.7			33.4			52.7	
Approach LOS		B			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		41.0	5.0	54.0		41.0	14.1	44.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		36.5	5.1	44.9		36.5	15.5	34.5
Max Q Clear Time (g_c+I1), s		38.5	2.2	6.1		38.5	9.3	22.5
Green Ext Time (p_c), s		0.0	0.0	7.5		0.0	0.3	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	472	522	89	40	237	5	41	77	8	23	94	368
Future Volume (veh/h)	472	522	89	40	237	5	41	77	8	23	94	368
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1600	1569	1600
Adj Flow Rate, veh/h	513	567	97	43	258	5	45	84	9	25	102	400
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	590	1068	182	277	595	12	194	573	61	50	98	345
Arrive On Green	0.25	0.42	0.42	0.03	0.20	0.20	0.04	0.41	0.41	0.33	0.33	0.33
Sat Flow, veh/h	1494	2548	435	1494	2991	58	1494	1393	149	36	296	1045
Grp Volume(v), veh/h	513	331	333	43	128	135	45	0	93	527	0	0
Grp Sat Flow(s),veh/h/ln	1494	1490	1492	1494	1490	1558	1494	0	1542	1377	0	0
Q Serve(g_s), s	25.5	16.6	16.7	2.3	7.5	7.6	1.9	0.0	3.8	18.4	0.0	0.0
Cycle Q Clear(g_c), s	25.5	16.6	16.7	2.3	7.5	7.6	1.9	0.0	3.8	33.0	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.04	1.00		0.10	0.05		0.76
Lane Grp Cap(c), veh/h	590	625	625	277	297	310	194	0	634	492	0	0
V/C Ratio(X)	0.87	0.53	0.53	0.16	0.43	0.43	0.23	0.00	0.15	1.07	0.00	0.00
Avail Cap(c_a), veh/h	590	625	625	316	297	310	217	0	634	492	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.74	0.00	0.00
Uniform Delay (d), s/veh	22.6	21.7	21.7	30.2	35.1	35.1	19.4	0.0	18.5	34.7	0.0	0.0
Incr Delay (d2), s/veh	13.2	3.2	3.2	0.3	4.5	4.4	0.6	0.0	0.5	55.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	7.4	7.4	0.9	3.5	3.6	0.8	0.0	1.7	21.1	0.0	0.0
LnGrp Delay(d),s/veh	35.8	24.9	24.9	30.5	39.7	39.5	20.0	0.0	18.9	89.9	0.0	0.0
LnGrp LOS	D	C	C	C	D	D	C		B	F		
Approach Vol, veh/h		1177			306			138			527	
Approach Delay, s/veh		29.7			38.3			19.3			89.9	
Approach LOS		C			D			B			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		45.6	8.0	46.4	8.1	37.5	30.0	24.4
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		41.1	6.1	39.3	5.1	31.5	25.5	19.9
Max Q Clear Time (g_c+I1), s		5.8	4.3	18.7	3.9	35.0	27.5	9.6
Green Ext Time (p_c), s		5.0	0.0	5.8	0.0	0.0	0.0	4.1

Intersection Summary	
HCM 2010 Ctrl Delay	45.0
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	25.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	165	96	8	222	3	202	67	9	1	85	41
Future Vol, veh/h	5	165	96	8	222	3	202	67	9	1	85	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	100	125	-	100	200	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	79	77	50	84	75	75	80	56	25	92	73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	209	125	16	264	4	269	84	16	4	92	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	891	766	120	863	787	92	149	0	0	100	0	0
Stage 1	128	128	-	630	630	-	-	-	-	-	-	-
Stage 2	763	638	-	233	157	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	263	333	931	275	324	965	1432	-	-	1493	-	-
Stage 1	876	790	-	470	475	-	-	-	-	-	-	-
Stage 2	397	471	-	770	768	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	270	931	76	~ 262	965	1432	-	-	1493	-	-
Mov Cap-2 Maneuver	-	270	-	76	~ 262	-	-	-	-	-	-	-
Stage 1	711	788	-	382	386	-	-	-	-	-	-	-
Stage 2	101	383	-	489	766	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		96.4	5.9	0.2
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1432	-	-	-	270	931	76	262	965	1493	-	-
HCM Lane V/C Ratio	0.188	-	-	-	0.774	0.134	0.211	1.009	0.004	0.003	-	-
HCM Control Delay (s)	8.1	-	-	-	52.5	9.5	64.6	99.7	8.7	7.4	-	-
HCM Lane LOS	A	-	-	-	F	A	F	F	A	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	-	5.8	0.5	0.7	10.1	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	37.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	255	143	29	159	4	145	159	10	11	117	21
Future Vol, veh/h	21	255	143	29	159	4	145	159	10	11	117	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	100	125	-	100	200	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	92	73	33	81	72	64	72	62	55	79	66
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	277	196	88	196	6	227	221	16	20	148	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	984	894	164	1025	902	229	180	0	0	237	0	0
Stage 1	204	204	-	682	682	-	-	-	-	-	-	-
Stage 2	780	690	-	343	220	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	228	280	881	213	277	810	1396	-	-	1330	-	-
Stage 1	798	733	-	440	450	-	-	-	-	-	-	-
Stage 2	388	446	-	672	721	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	55	~ 231	881	-	228	810	1396	-	-	1330	-	-
Mov Cap-2 Maneuver	55	~ 231	-	-	228	-	-	-	-	-	-	-
Stage 1	668	722	-	368	377	-	-	-	-	-	-	-
Stage 2	155	373	-	317	710	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	103.8		3.9	0.8
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1396	-	-	55	231	881	-	228	810	1330	-	-
HCM Lane V/C Ratio	0.162	-	-	0.509	1.2	0.222	-	0.861	0.007	0.015	-	-
HCM Control Delay (s)	8.1	-	-	124.9	167.7	10.3	-	73.7	9.5	7.7	-	-
HCM Lane LOS	A	-	-	F	F	B	-	F	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	2	13.5	0.8	-	6.8	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	220	128	11	295	4	269	89	12	1	113	55
Future Vol, veh/h	7	220	128	11	295	4	269	89	12	1	113	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	100	125	-	100	200	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	239	139	12	321	4	292	97	13	1	123	60

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1003	850	153	962	873	103	183	0	0	110	0	0
Stage 1	155	155	-	688	688	-	-	-	-	-	-	-
Stage 2	848	695	-	274	185	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	221	298	893	235	~ 289	952	1392	-	-	1480	-	-
Stage 1	847	769	-	436	447	-	-	-	-	-	-	-
Stage 2	356	444	-	732	747	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 235	893	-	~ 228	952	1392	-	-	1480	-	-
Mov Cap-2 Maneuver	-	~ 235	-	-	~ 228	-	-	-	-	-	-	-
Stage 1	669	768	-	345	353	-	-	-	-	-	-	-
Stage 2	26	351	-	425	746	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			6	0
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1392	-	-	-	235	893	-	228	952	1480	-	-
HCM Lane V/C Ratio	0.21	-	-	-	1.018	0.156	-	1.406	0.005	0.001	-	-
HCM Control Delay (s)	8.3	-	-	-	108.1	9.8	-	247.7	8.8	7.4	-	-
HCM Lane LOS	A	-	-	-	F	A	-	F	A	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	-	9.7	0.6	-	18.2	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	87.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	339	190	39	212	5	193	212	13	15	156	28
Future Vol, veh/h	28	339	190	39	212	5	193	212	13	15	156	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	100	125	-	100	200	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	368	207	42	230	5	210	230	14	16	170	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	989	881	185	1059	890	238	200	0	0	245	0	0
Stage 1	217	217	-	657	657	-	-	-	-	-	-	-
Stage 2	772	664	-	402	233	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	226	~ 285	857	202	282	801	1372	-	-	1321	-	-
Stage 1	785	723	-	454	462	-	-	-	-	-	-	-
Stage 2	392	458	-	625	712	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 20	~ 238	857	-	236	801	1372	-	-	1321	-	-
Mov Cap-2 Maneuver	~ 20	~ 238	-	-	236	-	-	-	-	-	-	-
Stage 1	665	714	-	385	391	-	-	-	-	-	-	-
Stage 2	135	388	-	227	703	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	222.4		3.7	0.6
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1372	-	-	20	238	857	-	236	801	1321	-	-
HCM Lane V/C Ratio	0.153	-	-	1.522	1.548	0.241	-	0.976	0.007	0.012	-	-
HCM Control Delay (s)	8.1	-	-	$ 672.6	$ 304	10.5	-	97	9.5	7.8	-	-
HCM Lane LOS	A	-	-	F	F	B	-	F	A	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	4.1	22.5	0.9	-	9	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	330	128	11	483	4	269	89	12	1	113	55
Future Volume (veh/h)	7	330	128	11	483	4	269	89	12	1	113	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1569	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	8	359	139	12	525	4	292	97	13	1	123	60
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	631	536	321	631	536	563	607	81	638	446	218
Arrive On Green	0.40	0.40	0.40	0.27	0.27	0.27	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	871	1569	1333	896	1569	1333	1196	1355	182	1278	997	486
Grp Volume(v), veh/h	8	359	139	12	525	4	292	0	110	1	0	183
Grp Sat Flow(s),veh/h/ln	871	1569	1333	896	1569	1333	1196	0	1537	1278	0	1483
Q Serve(g_s), s	0.5	10.6	4.2	0.7	18.9	0.1	12.2	0.0	2.6	0.0	0.0	4.7
Cycle Q Clear(g_c), s	19.4	10.6	4.2	11.3	18.9	0.1	16.9	0.0	2.6	2.6	0.0	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.33
Lane Grp Cap(c), veh/h	196	631	536	321	631	536	563	0	688	638	0	664
V/C Ratio(X)	0.04	0.57	0.26	0.04	0.83	0.01	0.52	0.00	0.16	0.00	0.00	0.28
Avail Cap(c_a), veh/h	230	693	589	357	693	589	563	0	688	638	0	664
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	0.47	0.00	0.47	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	13.9	12.0	21.8	20.0	13.2	15.7	0.0	9.9	10.6	0.0	10.4
Incr Delay (d2), s/veh	0.1	0.9	0.3	0.0	6.4	0.0	1.6	0.0	0.2	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.7	1.5	0.2	9.3	0.0	4.2	0.0	1.1	0.0	0.0	2.1
LnGrp Delay(d),s/veh	25.3	14.8	12.2	21.8	26.4	13.2	17.4	0.0	10.1	10.6	0.0	11.5
LnGrp LOS	C	B	B	C	C	B	B		B	B		B
Approach Vol, veh/h		506			541			402			184	
Approach Delay, s/veh		14.3			26.2			15.4			11.5	
Approach LOS		B			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		31.4		28.6		31.4		28.6
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		24.5		26.5		24.5		26.5
Max Q Clear Time (g_c+I1), s		18.9		21.4		6.7		20.9
Green Ext Time (p_c), s		1.5		2.7		2.7		2.9

Intersection Summary	
HCM 2010 Ctrl Delay	18.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	621	190	39	446	5	193	212	13	15	156	28
Future Volume (veh/h)	28	621	190	39	446	5	193	212	13	15	156	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1569	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	30	675	207	42	485	5	210	230	14	16	170	30
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	799	679	207	799	679	404	499	30	366	442	78
Arrive On Green	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	903	1569	1333	627	1569	1333	1178	1464	89	1131	1299	229
Grp Volume(v), veh/h	30	675	207	42	485	5	210	0	244	16	0	200
Grp Sat Flow(s),veh/h/ln	903	1569	1333	627	1569	1333	1178	0	1553	1131	0	1528
Q Serve(g_s), s	1.5	22.2	5.4	3.8	15.4	0.1	9.9	0.0	7.4	0.7	0.0	6.0
Cycle Q Clear(g_c), s	17.0	22.2	5.4	26.1	15.4	0.1	15.8	0.0	7.4	8.0	0.0	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		0.15
Lane Grp Cap(c), veh/h	348	799	679	207	799	679	404	0	529	366	0	521
V/C Ratio(X)	0.09	0.84	0.30	0.20	0.61	0.01	0.52	0.00	0.46	0.04	0.00	0.38
Avail Cap(c_a), veh/h	362	824	700	217	824	700	404	0	529	366	0	521
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.3	12.7	8.5	28.8	14.8	9.7	21.0	0.0	15.5	18.6	0.0	15.0
Incr Delay (d2), s/veh	0.1	7.9	0.3	0.4	1.0	0.0	4.7	0.0	2.9	0.2	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	11.3	2.0	0.7	6.9	0.1	3.7	0.0	3.5	0.2	0.0	2.8
LnGrp Delay(d),s/veh	17.4	20.6	8.8	29.2	15.8	9.7	25.7	0.0	18.4	18.8	0.0	17.1
LnGrp LOS	B	C	A	C	B	A	C		B	B		B
Approach Vol, veh/h		912			532			454			216	
Approach Delay, s/veh		17.8			16.8			21.8			17.3	
Approach LOS		B			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		24.9		35.1		24.9		35.1
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		31.5		19.5		31.5
Max Q Clear Time (g_c+I1), s		17.8		24.2		10.0		28.1
Green Ext Time (p_c), s		0.6		4.8		2.5		2.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.3
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	2	164	7	1	0	217	145	2	0	179	9
Future Vol, veh/h	5	2	164	7	1	0	217	145	2	0	179	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	-	-	-	160	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	50	84	58	25	92	85	88	25	92	83	56
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	4	195	12	4	0	255	165	8	0	216	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	905	907	224	905	911	169	232	0	0	173	0	0
Stage 1	224	224	-	679	679	-	-	-	-	-	-	-
Stage 2	681	683	-	226	232	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	257	276	815	257	274	875	1336	-	-	1404	-	-
Stage 1	779	718	-	441	451	-	-	-	-	-	-	-
Stage 2	440	449	-	777	713	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	216	223	815	165	222	875	1336	-	-	1404	-	-
Mov Cap-2 Maneuver	216	223	-	165	222	-	-	-	-	-	-	-
Stage 1	630	718	-	357	365	-	-	-	-	-	-	-
Stage 2	352	363	-	588	713	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	27.5	5	0
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1336	-	-	216	223	815	176	1404	-	-
HCM Lane V/C Ratio	0.191	-	-	0.037	0.018	0.24	0.091	-	-	-
HCM Control Delay (s)	8.3	-	-	22.3	21.4	10.8	27.5	0	-	-
HCM Lane LOS	A	-	-	C	C	B	D	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	0.1	0.9	0.3	0	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	6	255	4	3	1	182	256	15	2	175	7
Future Vol, veh/h	11	6	255	4	3	1	182	256	15	2	175	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	-	-	-	160	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	75	91	33	38	25	88	86	54	50	82	44
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	8	280	12	8	4	207	298	28	4	213	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	960	968	221	958	962	312	229	0	0	325	0	0
Stage 1	229	229	-	725	725	-	-	-	-	-	-	-
Stage 2	731	739	-	233	237	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	236	254	819	237	256	728	1339	-	-	1235	-	-
Stage 1	774	715	-	416	430	-	-	-	-	-	-	-
Stage 2	413	424	-	770	709	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	201	214	819	133	216	728	1339	-	-	1235	-	-
Mov Cap-2 Maneuver	201	214	-	133	216	-	-	-	-	-	-	-
Stage 1	654	713	-	352	364	-	-	-	-	-	-	-
Stage 2	340	358	-	499	707	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	28.1	3.2	0.1
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1339	-	-	201	214	819	180	1235	-	-
HCM Lane V/C Ratio	0.154	-	-	0.079	0.037	0.342	0.133	0.003	-	-
HCM Control Delay (s)	8.2	-	-	24.4	22.5	11.7	28.1	7.9	-	-
HCM Lane LOS	A	-	-	C	C	B	D	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.3	0.1	1.5	0.5	0	-	-

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	3	218	9	1	5	289	193	3	5	238	12
Future Vol, veh/h	7	3	218	9	1	5	289	193	3	5	238	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	-	-	-	160	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	3	237	10	1	5	314	210	3	5	259	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1119	1117	265	1118	1123	211	272	0	0	213	0	0
Stage 1	276	276	-	840	840	-	-	-	-	-	-	-
Stage 2	843	841	-	278	283	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	184	207	774	184	206	829	1291	-	-	1357	-	-
Stage 1	730	682	-	360	381	-	-	-	-	-	-	-
Stage 2	358	380	-	728	677	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	147	156	774	102	155	829	1291	-	-	1357	-	-
Mov Cap-2 Maneuver	147	156	-	102	155	-	-	-	-	-	-	-
Stage 1	552	679	-	272	288	-	-	-	-	-	-	-
Stage 2	268	288	-	501	675	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	32.1	5.2	0.2
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1291	-	-	147	156	774	149	1357	-	-
HCM Lane V/C Ratio	0.243	-	-	0.052	0.021	0.306	0.109	0.004	-	-
HCM Control Delay (s)	8.7	-	-	30.8	28.6	11.7	32.1	7.7	-	-
HCM Lane LOS	A	-	-	D	D	B	D	A	-	-
HCM 95th %tile Q(veh)	1	-	-	0.2	0.1	1.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	8	339	5	4	10	242	341	20	10	233	9
Future Vol, veh/h	15	8	339	5	4	10	242	341	20	10	233	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	-	-	-	160	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	9	368	5	4	11	263	371	22	11	253	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1195	1198	258	1192	1193	382	263	0	0	392	0	0
Stage 1	280	280	-	908	908	-	-	-	-	-	-	-
Stage 2	915	918	-	284	285	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	163	186	781	164	187	665	1301	-	-	1167	-	-
Stage 1	727	679	-	330	354	-	-	-	-	-	-	-
Stage 2	327	350	-	723	676	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	132	147	781	69	148	665	1301	-	-	1167	-	-
Mov Cap-2 Maneuver	132	147	-	69	148	-	-	-	-	-	-	-
Stage 1	580	673	-	263	282	-	-	-	-	-	-	-
Stage 2	253	279	-	373	670	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15	29.7	3.4	0.3
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1301	-	-	132	147	781	166	1167	-	-
HCM Lane V/C Ratio	0.202	-	-	0.124	0.059	0.472	0.124	0.009	-	-
HCM Control Delay (s)	8.5	-	-	36.1	31	13.7	29.7	8.1	-	-
HCM Lane LOS	A	-	-	E	D	B	D	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	0.4	0.2	2.6	0.4	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	91	240	9	151	5	327	193	3	5	238	12
Future Volume (veh/h)	7	91	240	9	151	5	327	193	3	5	238	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	8	99	261	10	164	5	355	210	3	5	259	13
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	383	325	308	370	11	696	935	13	825	897	45
Arrive On Green	0.08	0.08	0.08	0.24	0.24	0.24	1.00	1.00	1.00	0.61	0.61	0.61
Sat Flow, veh/h	1211	1569	1333	1017	1514	46	1103	1543	22	1164	1481	74
Grp Volume(v), veh/h	8	99	261	10	0	169	355	0	213	5	0	272
Grp Sat Flow(s),veh/h/ln	1211	1569	1333	1017	0	1560	1103	0	1565	1164	0	1556
Q Serve(g_s), s	0.4	3.6	11.5	0.5	0.0	5.5	5.7	0.0	0.0	0.1	0.0	5.0
Cycle Q Clear(g_c), s	5.9	3.6	11.5	4.0	0.0	5.5	10.7	0.0	0.0	0.1	0.0	5.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.01	1.00		0.05
Lane Grp Cap(c), veh/h	304	383	325	308	0	381	696	0	948	825	0	942
V/C Ratio(X)	0.03	0.26	0.80	0.03	0.00	0.44	0.51	0.00	0.22	0.01	0.00	0.29
Avail Cap(c_a), veh/h	372	471	400	365	0	468	696	0	948	825	0	942
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	1.00	0.00	1.00	0.63	0.00	0.63	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.2	22.5	26.2	20.1	0.0	19.2	0.7	0.0	0.0	4.7	0.0	5.6
Incr Delay (d2), s/veh	0.0	0.3	7.5	0.0	0.0	0.8	1.7	0.0	0.3	0.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.6	4.9	0.1	0.0	2.4	1.8	0.0	0.1	0.0	0.0	2.3
LnGrp Delay(d),s/veh	26.2	22.8	33.6	20.2	0.0	20.0	2.4	0.0	0.3	4.7	0.0	6.4
LnGrp LOS	C	C	C	C		C	A		A	A		A
Approach Vol, veh/h		368			179			568			277	
Approach Delay, s/veh		30.5			20.0			1.6			6.4	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		40.9		19.1		40.9		19.1
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		33.0		18.0		33.0		18.0
Max Q Clear Time (g_c+I1), s		12.7		13.5		7.0		7.5
Green Ext Time (p_c), s		4.6		1.1		4.9		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	234	395	5	191	10	289	341	20	10	233	9
Future Volume (veh/h)	15	234	395	5	191	10	289	341	20	10	233	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1569	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	16	254	429	5	208	11	314	371	22	11	253	10
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	510	433	250	480	25	596	770	46	479	787	31
Arrive On Green	0.11	0.11	0.11	0.32	0.32	0.32	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1157	1569	1333	755	1477	78	1112	1466	87	987	1499	59
Grp Volume(v), veh/h	16	254	429	5	0	219	314	0	393	11	0	263
Grp Sat Flow(s),veh/h/ln	1157	1569	1333	755	0	1555	1112	0	1553	987	0	1558
Q Serve(g_s), s	0.8	9.2	19.3	0.3	0.0	6.6	13.5	0.0	9.7	0.4	0.0	5.8
Cycle Q Clear(g_c), s	7.4	9.2	19.3	9.5	0.0	6.6	19.3	0.0	9.7	10.1	0.0	5.8
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.06	1.00		0.04
Lane Grp Cap(c), veh/h	368	510	433	250	0	505	596	0	815	479	0	818
V/C Ratio(X)	0.04	0.50	0.99	0.02	0.00	0.43	0.53	0.00	0.48	0.02	0.00	0.32
Avail Cap(c_a), veh/h	368	510	433	250	0	505	596	0	815	479	0	818
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.40	0.40	0.40	1.00	0.00	1.00	0.09	0.00	0.09	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	22.2	26.7	20.7	0.0	15.9	13.7	0.0	9.1	12.3	0.0	8.1
Incr Delay (d2), s/veh	0.0	0.3	24.8	0.0	0.0	0.6	0.3	0.0	0.2	0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.0	10.1	0.1	0.0	2.9	4.1	0.0	4.1	0.1	0.0	2.7
LnGrp Delay(d),s/veh	24.5	22.5	51.5	20.7	0.0	16.5	14.0	0.0	9.2	12.4	0.0	9.2
LnGrp LOS	C	C	D	C		B	B		A	B		A
Approach Vol, veh/h		699			224			707			274	
Approach Delay, s/veh		40.3			16.6			11.3			9.3	
Approach LOS		D			B			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		36.0		24.0		36.0		24.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		31.5		19.5		31.5		19.5
Max Q Clear Time (g_c+I1), s		21.3		21.3		12.1		11.5
Green Ext Time (p_c), s		4.0		0.0		5.5		3.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	3	25	21	6	5	26	355	8	4	343	5
Future Vol, veh/h	1	3	25	21	6	5	26	355	8	4	343	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	275	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	75	62	44	50	62	65	87	67	33	90	62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	40	48	12	8	40	408	12	12	381	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	913	909	385	926	907	414	389	0	0	420	0	0
Stage 1	409	409	-	494	494	-	-	-	-	-	-	-
Stage 2	504	500	-	432	413	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	254	275	663	249	276	638	1170	-	-	1139	-	-
Stage 1	619	596	-	557	546	-	-	-	-	-	-	-
Stage 2	550	543	-	602	594	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	234	263	663	223	264	638	1170	-	-	1139	-	-
Mov Cap-2 Maneuver	234	263	-	223	264	-	-	-	-	-	-	-
Stage 1	598	590	-	538	527	-	-	-	-	-	-	-
Stage 2	513	524	-	556	588	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	24.8	0.7	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1170	-	-	519	249	1139	-	-
HCM Lane V/C Ratio	0.034	-	-	0.093	0.272	0.011	-	-
HCM Control Delay (s)	8.2	-	-	12.6	24.8	8.2	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	1.1	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	6	24	11	4	8	35	444	16	9	430	2
Future Vol, veh/h	3	6	24	11	4	8	35	444	16	9	430	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	275	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	50	67	55	50	67	52	94	80	45	90	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	12	36	20	8	12	67	472	20	20	478	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1147	1147	480	1161	1139	482	482	0	0	492	0	0
Stage 1	520	520	-	617	617	-	-	-	-	-	-	-
Stage 2	627	627	-	544	522	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	176	199	586	172	201	584	1081	-	-	1071	-	-
Stage 1	539	532	-	477	481	-	-	-	-	-	-	-
Stage 2	471	476	-	523	531	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	157	183	586	144	185	584	1081	-	-	1071	-	-
Mov Cap-2 Maneuver	157	183	-	144	185	-	-	-	-	-	-	-
Stage 1	506	522	-	447	451	-	-	-	-	-	-	-
Stage 2	425	446	-	471	521	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	27.9	1	0.3
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1081	-	-	315	197	1071	-	-
HCM Lane V/C Ratio	0.062	-	-	0.177	0.203	0.019	-	-
HCM Control Delay (s)	8.6	-	-	18.9	27.9	8.4	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	4	33	28	8	7	35	472	11	5	456	7
Future Vol, veh/h	1	4	33	28	8	7	35	472	11	5	456	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	275	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	4	36	30	9	8	38	513	12	5	496	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1113	1111	499	1125	1109	519	503	0	0	525	0	0
Stage 1	510	510	-	595	595	-	-	-	-	-	-	-
Stage 2	603	601	-	530	514	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	186	209	572	182	210	557	1061	-	-	1042	-	-
Stage 1	546	538	-	491	492	-	-	-	-	-	-	-
Stage 2	486	489	-	533	535	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	172	201	572	163	202	557	1061	-	-	1042	-	-
Mov Cap-2 Maneuver	172	201	-	163	202	-	-	-	-	-	-	-
Stage 1	526	535	-	473	474	-	-	-	-	-	-	-
Stage 2	454	471	-	493	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	29.7	0.6	0.1
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1061	-	-	456	192	1042	-	-
HCM Lane V/C Ratio	0.036	-	-	0.091	0.243	0.005	-	-
HCM Control Delay (s)	8.5	-	-	13.7	29.7	8.5	-	-
HCM Lane LOS	A	-	-	B	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.9	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	8	32	15	5	11	47	591	21	12	572	3
Future Vol, veh/h	4	8	32	15	5	11	47	591	21	12	572	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	275	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	9	35	16	5	12	51	642	23	13	622	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1414	1416	623	1427	1407	654	625	0	0	665	0	0
Stage 1	649	649	-	756	756	-	-	-	-	-	-	-
Stage 2	765	767	-	671	651	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	115	137	486	113	139	467	956	-	-	924	-	-
Stage 1	458	466	-	400	416	-	-	-	-	-	-	-
Stage 2	396	411	-	446	465	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	103	128	486	94	130	467	956	-	-	924	-	-
Mov Cap-2 Maneuver	103	128	-	94	130	-	-	-	-	-	-	-
Stage 1	434	459	-	379	394	-	-	-	-	-	-	-
Stage 2	360	389	-	401	458	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.7	38.7	0.6	0.2
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	956	-	-	263	140	924	-	-
HCM Lane V/C Ratio	0.053	-	-	0.182	0.241	0.014	-	-
HCM Control Delay (s)	9	-	-	21.7	38.7	9	-	-
HCM Lane LOS	A	-	-	C	E	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	0.9	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	4	33	216	8	45	35	472	121	27	456	7
Future Volume (veh/h)	1	4	33	216	8	45	35	472	121	27	456	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	1	4	36	235	9	49	38	513	132	29	496	8
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	384	31	282	403	49	267	582	745	192	383	953	15
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.62	0.62	0.62	0.82	0.82	0.82
Sat Flow, veh/h	1340	135	1218	1362	212	1153	891	1204	310	782	1539	25
Grp Volume(v), veh/h	1	0	40	235	0	58	38	0	645	29	0	504
Grp Sat Flow(s),veh/h/ln	1340	0	1354	1362	0	1365	891	0	1514	782	0	1564
Q Serve(g_s), s	0.0	0.0	1.4	9.9	0.0	2.0	1.3	0.0	17.0	1.3	0.0	6.0
Cycle Q Clear(g_c), s	2.1	0.0	1.4	11.3	0.0	2.0	7.3	0.0	17.0	18.3	0.0	6.0
Prop In Lane	1.00		0.90	1.00		0.84	1.00		0.20	1.00		0.02
Lane Grp Cap(c), veh/h	384	0	313	403	0	316	582	0	937	383	0	968
V/C Ratio(X)	0.00	0.00	0.13	0.58	0.00	0.18	0.07	0.00	0.69	0.08	0.00	0.52
Avail Cap(c_a), veh/h	487	0	417	508	0	421	582	0	937	383	0	968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.92	0.00	0.92
Uniform Delay (d), s/veh	19.4	0.0	18.3	22.8	0.0	18.5	7.3	0.0	7.6	8.6	0.0	2.6
Incr Delay (d2), s/veh	0.0	0.0	0.2	1.3	0.0	0.3	0.2	0.0	4.1	0.4	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.5	3.9	0.0	0.8	0.4	0.0	8.1	0.3	0.0	2.9
LnGrp Delay(d),s/veh	19.4	0.0	18.5	24.1	0.0	18.8	7.5	0.0	11.7	8.9	0.0	4.4
LnGrp LOS	B		B	C		B	A		B	A		A
Approach Vol, veh/h		41			293			683			533	
Approach Delay, s/veh		18.5			23.0			11.5			4.6	
Approach LOS		B			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.6		18.4		41.6		18.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		32.5		18.5		32.5		18.5
Max Q Clear Time (g_c+I1), s		19.0		4.1		20.3		13.3
Green Ext Time (p_c), s		6.8		1.1		6.4		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	8	32	249	5	58	47	591	303	68	572	3
Future Volume (veh/h)	4	8	32	249	5	58	47	591	303	68	572	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1569	1569	1600	1569	1569	1600	1569	1569	1600	1569	1569	1600
Adj Flow Rate, veh/h	4	9	35	271	5	63	51	642	329	74	622	3
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	369	69	269	396	24	307	408	620	318	96	989	5
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1328	281	1094	1357	99	1249	797	979	502	577	1560	8
Grp Volume(v), veh/h	4	0	44	271	0	68	51	0	971	74	0	625
Grp Sat Flow(s),veh/h/ln	1328	0	1376	1357	0	1348	797	0	1480	577	0	1567
Q Serve(g_s), s	0.2	0.0	1.9	14.6	0.0	3.0	3.1	0.0	47.5	0.0	0.0	18.2
Cycle Q Clear(g_c), s	3.2	0.0	1.9	16.4	0.0	3.0	21.3	0.0	47.5	47.5	0.0	18.2
Prop In Lane	1.00		0.80	1.00		0.93	1.00		0.34	1.00		0.00
Lane Grp Cap(c), veh/h	369	0	338	396	0	332	408	0	938	96	0	994
V/C Ratio(X)	0.01	0.00	0.13	0.68	0.00	0.20	0.13	0.00	1.03	0.77	0.00	0.63
Avail Cap(c_a), veh/h	370	0	339	397	0	333	408	0	938	96	0	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.85	0.00	0.85
Uniform Delay (d), s/veh	23.7	0.0	22.0	28.4	0.0	22.4	14.9	0.0	13.7	37.5	0.0	8.4
Incr Delay (d2), s/veh	0.0	0.0	0.2	4.8	0.0	0.3	0.6	0.0	38.7	39.0	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.7	5.9	0.0	1.1	0.8	0.0	29.1	2.6	0.0	8.5
LnGrp Delay(d),s/veh	23.7	0.0	22.2	33.2	0.0	22.8	15.5	0.0	52.5	76.5	0.0	10.9
LnGrp LOS	C		C	C		C	B		F	E		B
Approach Vol, veh/h		48			339			1022			699	
Approach Delay, s/veh		22.3			31.1			50.6			17.9	
Approach LOS		C			C			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		52.0		23.0		52.0		23.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		47.5		18.5		47.5		18.5
Max Q Clear Time (g_c+I1), s		49.5		5.2		49.5		18.4
Green Ext Time (p_c), s		0.0		1.3		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	36.0
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	9	0	2	2	27	4	1	158	0
Future Vol, veh/h	0	0	1	9	0	2	2	27	4	1	158	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	25	56	92	50	25	75	50	25	82	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	4	16	0	4	8	36	8	4	193	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	259	261	193	259	257	40	193	0	0	44	0	0
Stage 1	201	201	-	56	56	-	-	-	-	-	-	-
Stage 2	58	60	-	203	201	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	694	644	849	694	647	1031	1380	-	-	1564	-	-
Stage 1	801	735	-	956	848	-	-	-	-	-	-	-
Stage 2	954	845	-	799	735	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	687	638	849	686	641	1031	1380	-	-	1564	-	-
Mov Cap-2 Maneuver	687	638	-	686	641	-	-	-	-	-	-	-
Stage 1	796	733	-	950	843	-	-	-	-	-	-	-
Stage 2	945	840	-	793	733	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	10	1.2	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1380	-	-	849	735	1564	-	-
HCM Lane V/C Ratio	0.006	-	-	0.005	0.027	0.003	-	-
HCM Control Delay (s)	7.6	0	-	9.3	10	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	4	3	0	2	1	110	9	3	69	0
Future Vol, veh/h	0	0	4	3	0	2	1	110	9	3	69	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	33	75	92	50	25	76	56	38	72	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	12	4	0	4	4	145	16	8	96	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	275	281	96	279	273	153	96	0	0	161	0	0
Stage 1	112	112	-	161	161	-	-	-	-	-	-	-
Stage 2	163	169	-	118	112	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	677	627	960	673	634	893	1498	-	-	1418	-	-
Stage 1	893	803	-	841	765	-	-	-	-	-	-	-
Stage 2	839	759	-	887	803	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	669	621	960	660	628	893	1498	-	-	1418	-	-
Mov Cap-2 Maneuver	669	621	-	660	628	-	-	-	-	-	-	-
Stage 1	890	798	-	838	763	-	-	-	-	-	-	-
Stage 2	833	757	-	871	798	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9.8	0.2	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1498	-	-	960	759	1418	-	-
HCM Lane V/C Ratio	0.003	-	-	0.013	0.011	0.006	-	-
HCM Control Delay (s)	7.4	0	-	8.8	9.8	7.6	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	1	12	5	3	3	36	5	1	210	5
Future Vol, veh/h	5	5	1	12	5	3	3	36	5	1	210	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	1	13	5	3	3	39	5	1	228	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	286	284	231	284	284	42	234	0	0	45	0	0
Stage 1	233	233	-	48	48	-	-	-	-	-	-	-
Stage 2	53	51	-	236	236	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	666	625	808	668	625	1029	1333	-	-	1563	-	-
Stage 1	770	712	-	965	855	-	-	-	-	-	-	-
Stage 2	960	852	-	767	710	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	658	623	808	661	623	1029	1333	-	-	1563	-	-
Mov Cap-2 Maneuver	658	623	-	661	623	-	-	-	-	-	-	-
Stage 1	768	711	-	963	853	-	-	-	-	-	-	-
Stage 2	949	850	-	759	709	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	10.4	0.5	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1333	-	-	652	687	1563	-	-
HCM Lane V/C Ratio	0.002	-	-	0.018	0.032	0.001	-	-
HCM Control Delay (s)	7.7	0	-	10.6	10.4	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	5	4	10	3	1	146	12	4	92	10
Future Vol, veh/h	10	10	5	4	10	3	1	146	12	4	92	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	5	4	11	3	1	159	13	4	100	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	288	288	105	289	287	165	111	0	0	172	0	0
Stage 1	114	114	-	167	167	-	-	-	-	-	-	-
Stage 2	174	174	-	122	120	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	664	622	949	663	623	879	1479	-	-	1405	-	-
Stage 1	891	801	-	835	760	-	-	-	-	-	-	-
Stage 2	828	755	-	882	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	651	620	949	648	621	879	1479	-	-	1405	-	-
Mov Cap-2 Maneuver	651	620	-	648	621	-	-	-	-	-	-	-
Stage 1	890	799	-	834	759	-	-	-	-	-	-	-
Stage 2	812	754	-	862	794	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	10.6	0	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1479	-	-	680	662	1405	-	-
HCM Lane V/C Ratio	0.001	-	-	0.04	0.028	0.003	-	-
HCM Control Delay (s)	7.4	0	-	10.5	10.6	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	16	12	5	3	28	36	5	1	210	5
Future Vol, veh/h	5	5	16	12	5	3	28	36	5	1	210	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	17	13	5	3	30	39	5	1	228	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	340	338	231	348	339	42	234	0	0	45	0	0
Stage 1	233	233	-	103	103	-	-	-	-	-	-	-
Stage 2	107	105	-	245	236	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	614	583	808	607	582	1029	1333	-	-	1563	-	-
Stage 1	770	712	-	903	810	-	-	-	-	-	-	-
Stage 2	898	808	-	759	710	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	596	569	808	579	568	1029	1333	-	-	1563	-	-
Mov Cap-2 Maneuver	596	569	-	579	568	-	-	-	-	-	-	-
Stage 1	752	711	-	882	791	-	-	-	-	-	-	-
Stage 2	869	789	-	736	709	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	11.1	3.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1333	-	-	703	616	1563	-	-
HCM Lane V/C Ratio	0.023	-	-	0.04	0.035	0.001	-	-
HCM Control Delay (s)	7.8	0	-	10.3	11.1	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	43	4	10	3	32	146	12	4	92	10
Future Vol, veh/h	10	10	43	4	10	3	32	146	12	4	92	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	47	4	11	3	35	159	13	4	100	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	356	355	105	378	355	165	111	0	0	172	0	0
Stage 1	114	114	-	235	235	-	-	-	-	-	-	-
Stage 2	242	241	-	143	120	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	599	571	949	580	571	879	1479	-	-	1405	-	-
Stage 1	891	801	-	768	710	-	-	-	-	-	-	-
Stage 2	762	706	-	860	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	575	554	949	531	554	879	1479	-	-	1405	-	-
Mov Cap-2 Maneuver	575	554	-	531	554	-	-	-	-	-	-	-
Stage 1	868	799	-	748	692	-	-	-	-	-	-	-
Stage 2	728	688	-	804	794	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	11.3	1.3	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1479	-	-	780	586	1405	-	-
HCM Lane V/C Ratio	0.024	-	-	0.088	0.032	0.003	-	-
HCM Control Delay (s)	7.5	0	-	10.1	11.3	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	1	33	1	1	169
Future Vol, veh/h	12	1	33	1	1	169
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	60	25	69	25	25	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	4	48	4	4	217

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	275	50	0	0	52	0
Stage 1	50	-	-	-	-	-
Stage 2	225	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	715	1018	-	-	1554	-
Stage 1	972	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	713	1018	-	-	1554	-
Mov Cap-2 Maneuver	713	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	810	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	750	1554	-
HCM Lane V/C Ratio	-	-	0.032	0.003	-
HCM Control Delay (s)	-	-	10	7.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	0	125	15	2	67
Future Vol, veh/h	8	0	125	15	2	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	40	92	87	75	50	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	0	144	20	4	96

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	258	154	0	0	164	0
Stage 1	154	-	-	-	-	-
Stage 2	104	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	731	892	-	-	1414	-
Stage 1	874	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	729	892	-	-	1414	-
Mov Cap-2 Maneuver	729	-	-	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	729	1414	-
HCM Lane V/C Ratio	-	-	0.027	0.003	-
HCM Control Delay (s)	-	-	10.1	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	1	44	1	1	225
Future Vol, veh/h	16	1	44	1	1	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	1	48	1	1	245

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	295	48	0	0	49	0
Stage 1	48	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	696	1021	-	-	1558	-
Stage 1	974	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	695	1021	-	-	1558	-
Mov Cap-2 Maneuver	695	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	793	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	708	1558	-
HCM Lane V/C Ratio	-	-	0.026	0.001	-
HCM Control Delay (s)	-	-	10.2	7.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	0	166	20	3	89
Future Vol, veh/h	11	0	166	20	3	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	180	22	3	97

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	294	191	0	0	202	0
Stage 1	191	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	697	851	-	-	1370	-
Stage 1	841	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	696	851	-	-	1370	-
Mov Cap-2 Maneuver	696	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	919	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	696	1370	-
HCM Lane V/C Ratio	-	-	0.017	0.002	-
HCM Control Delay (s)	-	-	10.3	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	63	16	5	1	37	69	1	1	240	5
Future Vol, veh/h	5	5	63	16	5	1	37	69	1	1	240	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	68	17	5	1	40	75	1	1	261	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	425	423	264	459	424	76	266	0	0	76	0	0
Stage 1	266	266	-	156	156	-	-	-	-	-	-	-
Stage 2	159	157	-	303	268	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	540	522	775	512	522	985	1298	-	-	1523	-	-
Stage 1	739	689	-	846	769	-	-	-	-	-	-	-
Stage 2	843	768	-	706	687	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	522	505	775	451	505	985	1298	-	-	1523	-	-
Mov Cap-2 Maneuver	522	505	-	451	505	-	-	-	-	-	-	-
Stage 1	715	688	-	819	744	-	-	-	-	-	-	-
Stage 2	809	743	-	638	686	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	13	2.7	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1298	-	-	724	474	1523	-	-
HCM Lane V/C Ratio	0.031	-	-	0.11	0.05	0.001	-	-
HCM Control Delay (s)	7.9	0	-	10.6	13	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	78	11	10	0	94	197	20	3	127	10
Future Vol, veh/h	10	10	78	11	10	0	94	197	20	3	127	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	85	12	11	0	102	214	22	3	138	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	585	590	143	627	584	225	149	0	0	236	0	0
Stage 1	150	150	-	429	429	-	-	-	-	-	-	-
Stage 2	435	440	-	198	155	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	422	420	905	396	423	814	1432	-	-	1331	-	-
Stage 1	853	773	-	604	584	-	-	-	-	-	-	-
Stage 2	600	578	-	804	769	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	387	385	905	329	388	814	1432	-	-	1331	-	-
Mov Cap-2 Maneuver	387	385	-	329	388	-	-	-	-	-	-	-
Stage 1	783	771	-	554	536	-	-	-	-	-	-	-
Stage 2	540	531	-	717	767	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	15.8	2.3	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1432	-	-	710	355	1331	-	-
HCM Lane V/C Ratio	0.071	-	-	0.15	0.064	0.002	-	-
HCM Control Delay (s)	7.7	0	-	11	15.8	7.7	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	36	0	0	181
Future Vol, veh/h	5	0	36	0	0	181
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	62	92	75	92	92	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	0	48	0	0	221

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	269	48	0	0	48	0
Stage 1	48	-	-	-	-	-
Stage 2	221	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	720	1021	-	-	1559	-
Stage 1	974	-	-	-	-	-
Stage 2	816	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	720	1021	-	-	1559	-
Mov Cap-2 Maneuver	720	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	816	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	720	1559	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Control Delay (s)	-	-	10.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	0	137	8	0	78
Future Vol, veh/h	6	0	137	8	0	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	92	78	67	92	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	176	12	0	108

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	290	182	0	0	188	0
Stage 1	182	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	701	861	-	-	1386	-
Stage 1	849	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	701	861	-	-	1386	-
Mov Cap-2 Maneuver	701	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	916	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	701	1386	-
HCM Lane V/C Ratio	-	-	0.017	-	-
HCM Control Delay (s)	-	-	10.2	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	2	48	0	0	241
Future Vol, veh/h	7	2	48	0	0	241
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	2	52	0	0	262

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	314	52	0	0	52	0
Stage 1	52	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	679	1016	-	-	1554	-
Stage 1	970	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	679	1016	-	-	1554	-
Mov Cap-2 Maneuver	679	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	733	1554	-
HCM Lane V/C Ratio	-	-	0.013	-	-
HCM Control Delay (s)	-	-	10	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	4	182	11	0	104
Future Vol, veh/h	8	4	182	11	0	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	4	198	12	0	113

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	317	204	0	0	210	0
Stage 1	204	-	-	-	-	-
Stage 2	113	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	676	837	-	-	1361	-
Stage 1	830	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	676	837	-	-	1361	-
Mov Cap-2 Maneuver	676	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	912	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	722	1361	-
HCM Lane V/C Ratio	-	-	0.018	-	-
HCM Control Delay (s)	-	-	10.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	50	7	5	2	29	110	0	0	319	5
Future Vol, veh/h	5	5	50	7	5	2	29	110	0	0	319	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	54	8	5	2	32	120	0	0	347	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	535	532	349	562	535	120	352	0	0	120	0	0
Stage 1	349	349	-	183	183	-	-	-	-	-	-	-
Stage 2	186	183	-	379	352	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	456	453	694	438	452	931	1207	-	-	1468	-	-
Stage 1	667	633	-	819	748	-	-	-	-	-	-	-
Stage 2	816	748	-	643	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	441	440	694	391	439	931	1207	-	-	1468	-	-
Mov Cap-2 Maneuver	441	440	-	391	439	-	-	-	-	-	-	-
Stage 1	648	633	-	796	727	-	-	-	-	-	-	-
Stage 2	785	727	-	588	632	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	13.4	1.7	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1207	-	-	633	445	1468	-	-
HCM Lane V/C Ratio	0.026	-	-	0.103	0.034	-	-	-
HCM Control Delay (s)	8.1	0	-	11.3	13.4	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	10	62	8	10	4	75	307	11	0	220	10
Future Vol, veh/h	10	10	62	8	10	4	75	307	11	0	220	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	11	67	9	11	4	82	334	12	0	239	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	755	754	245	787	753	340	250	0	0	346	0	0
Stage 1	245	245	-	503	503	-	-	-	-	-	-	-
Stage 2	510	509	-	284	250	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	325	338	794	309	339	702	1316	-	-	1213	-	-
Stage 1	759	703	-	551	541	-	-	-	-	-	-	-
Stage 2	546	538	-	723	700	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	296	312	794	259	313	702	1316	-	-	1213	-	-
Mov Cap-2 Maneuver	296	312	-	259	313	-	-	-	-	-	-	-
Stage 1	701	703	-	509	499	-	-	-	-	-	-	-
Stage 2	490	497	-	651	700	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	17.1	1.5	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1316	-	-	570	321	1213	-	-
HCM Lane V/C Ratio	0.062	-	-	0.156	0.074	-	-	-
HCM Control Delay (s)	7.9	0	-	12.5	17.1	0	-	-
HCM Lane LOS	A	A	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	33	2	1	187
Future Vol, veh/h	4	1	33	2	1	187
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	25	75	50	25	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	4	44	4	4	228

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	282	46	0	0	48	0
Stage 1	46	-	-	-	-	-
Stage 2	236	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	708	1023	-	-	1559	-
Stage 1	976	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	706	1023	-	-	1559	-
Mov Cap-2 Maneuver	706	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	801	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	787	1559	-
HCM Lane V/C Ratio	-	-	0.015	0.003	-
HCM Control Delay (s)	-	-	9.6	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	8	134	6	3	85
Future Vol, veh/h	1	8	134	6	3	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	50	82	30	38	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	16	163	20	8	116

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	305	173	0	0	183	0
Stage 1	173	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	687	871	-	-	1392	-
Stage 1	857	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	683	871	-	-	1392	-
Mov Cap-2 Maneuver	683	-	-	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	889	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	826	1392	-
HCM Lane V/C Ratio	-	-	0.024	0.006	-
HCM Control Delay (s)	-	-	9.5	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	44	3	1	249
Future Vol, veh/h	5	1	44	3	1	249
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	1	48	3	1	271

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	322	49	0	0	51	0
Stage 1	49	-	-	-	-	-
Stage 2	273	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	672	1020	-	-	1555	-
Stage 1	973	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	671	1020	-	-	1555	-
Mov Cap-2 Maneuver	671	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	772	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	712	1555	-
HCM Lane V/C Ratio	-	-	0.009	0.001	-
HCM Control Delay (s)	-	-	10.1	7.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	11	178	8	4	113
Future Vol, veh/h	1	11	178	8	4	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	12	193	9	4	123

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	330	198	0	0	202	0
Stage 1	198	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	665	843	-	-	1370	-
Stage 1	835	-	-	-	-	-
Stage 2	894	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	663	843	-	-	1370	-
Mov Cap-2 Maneuver	663	-	-	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	891	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	824	1370	-
HCM Lane V/C Ratio	-	-	0.016	0.003	-
HCM Control Delay (s)	-	-	9.4	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	25	5	0	1	15	135	3	1	377	2
Future Vol, veh/h	2	0	25	5	0	1	15	135	3	1	377	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	27	5	0	1	16	147	3	1	410	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	595	596	411	608	595	148	412	0	0	150	0	0
Stage 1	413	413	-	181	181	-	-	-	-	-	-	-
Stage 2	182	183	-	427	414	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	416	417	641	408	417	899	1147	-	-	1431	-	-
Stage 1	616	594	-	821	750	-	-	-	-	-	-	-
Stage 2	820	748	-	606	593	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	410	410	641	386	410	899	1147	-	-	1431	-	-
Mov Cap-2 Maneuver	410	410	-	386	410	-	-	-	-	-	-	-
Stage 1	607	593	-	809	739	-	-	-	-	-	-	-
Stage 2	807	737	-	580	592	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	13.6	0.8	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1147	-	-	615	427	1431	-	-
HCM Lane V/C Ratio	0.014	-	-	0.048	0.015	0.001	-	-
HCM Control Delay (s)	8.2	0	-	11.1	13.6	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	31	1	0	11	38	378	8	4	291	4
Future Vol, veh/h	4	0	31	1	0	11	38	378	8	4	291	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	34	1	0	12	41	411	9	4	316	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	831	829	318	842	827	415	321	0	0	420	0	0
Stage 1	327	327	-	498	498	-	-	-	-	-	-	-
Stage 2	504	502	-	344	329	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	289	306	723	284	307	637	1239	-	-	1139	-	-
Stage 1	686	648	-	554	544	-	-	-	-	-	-	-
Stage 2	550	542	-	671	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	273	292	723	261	293	637	1239	-	-	1139	-	-
Mov Cap-2 Maneuver	273	292	-	261	293	-	-	-	-	-	-	-
Stage 1	657	645	-	530	521	-	-	-	-	-	-	-
Stage 2	516	519	-	637	643	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	11.5	0.7	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1239	-	-	608	569	1139	-	-
HCM Lane V/C Ratio	0.033	-	-	0.063	0.023	0.004	-	-
HCM Control Delay (s)	8	0	-	11.3	11.5	8.2	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	20	85	5	36	5	132	5	5	5	5	5
Future Vol, veh/h	5	20	85	5	36	5	132	5	5	5	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	22	92	5	39	5	143	5	5	5	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	45	0	0	114	0	0	137	134	68	137	178	42
Stage 1	-	-	-	-	-	-	79	79	-	53	53	-
Stage 2	-	-	-	-	-	-	58	55	-	84	125	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1563	-	-	1475	-	-	834	757	995	834	716	1029
Stage 1	-	-	-	-	-	-	930	829	-	960	851	-
Stage 2	-	-	-	-	-	-	954	849	-	924	792	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1563	-	-	1475	-	-	821	752	995	821	712	1029
Mov Cap-2 Maneuver	-	-	-	-	-	-	821	752	-	821	712	-
Stage 1	-	-	-	-	-	-	927	827	-	957	848	-
Stage 2	-	-	-	-	-	-	940	846	-	910	790	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.8	10.4	9.4
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	823	1563	-	-	1475	-	-	835
HCM Lane V/C Ratio	0.188	0.003	-	-	0.004	-	-	0.02
HCM Control Delay (s)	10.4	7.3	0	-	7.5	0	-	9.4
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	69	193	10	42	10	165	10	10	10	10	10
Future Vol, veh/h	10	69	193	10	42	10	165	10	10	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	75	210	11	46	11	179	11	11	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	57	0	0	285	0	0	286	280	180	286	380	51
Stage 1	-	-	-	-	-	-	202	202	-	73	73	-
Stage 2	-	-	-	-	-	-	84	78	-	213	307	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1547	-	-	1277	-	-	666	628	863	666	552	1017
Stage 1	-	-	-	-	-	-	800	734	-	937	834	-
Stage 2	-	-	-	-	-	-	924	830	-	789	661	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1547	-	-	1277	-	-	640	617	863	640	542	1017
Mov Cap-2 Maneuver	-	-	-	-	-	-	640	617	-	640	542	-
Stage 1	-	-	-	-	-	-	793	727	-	929	826	-
Stage 2	-	-	-	-	-	-	894	823	-	761	655	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.3	13	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	648	1547	-	-	1277	-	-	683
HCM Lane V/C Ratio	0.31	0.007	-	-	0.009	-	-	0.048
HCM Control Delay (s)	13	7.3	0	-	7.8	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.3	0	-	-	0	-	-	0.1

Intersection	
Intersection Delay, s/veh	4.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	119	49	153	15
Demand Flow Rate, veh/h	121	50	156	15
Vehicles Circulating, veh/h	15	156	32	191
Vehicles Exiting, veh/h	191	32	104	15
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.2	4.2	4.6	4.0
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	121	50	156	15
Cap Entry Lane, veh/h	1113	967	1094	933
Entry HV Adj Factor	0.980	0.984	0.980	0.993
Flow Entry, veh/h	119	49	153	15
Cap Entry, veh/h	1091	952	1073	927
V/C Ratio	0.109	0.052	0.143	0.016
Control Delay, s/veh	4.2	4.2	4.6	4.0
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection	
Intersection Delay, s/veh	5.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	296	68	201	33
Demand Flow Rate, veh/h	301	69	205	33
Vehicles Circulating, veh/h	33	205	98	241
Vehicles Exiting, veh/h	241	98	236	33
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.0	4.7	5.5	4.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	301	69	205	33
Cap Entry Lane, veh/h	1093	921	1024	888
Entry HV Adj Factor	0.982	0.987	0.979	0.993
Flow Entry, veh/h	296	68	201	33
Cap Entry, veh/h	1073	908	1003	882
V/C Ratio	0.275	0.075	0.200	0.037
Control Delay, s/veh	6.0	4.7	5.5	4.4
LOS	A	A	A	A
95th %tile Queue, veh	1	0	1	0

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	37	59	62	0	25	100	50	0	78	42	15
Future Vol, veh/h	0	37	59	62	0	25	100	50	0	78	42	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	40	64	67	0	27	109	54	0	85	46	16
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.2	9.4	9.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	58%	23%	14%	19%
Vol Thru, %	31%	37%	57%	38%
Vol Right, %	11%	39%	29%	42%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	158	175	149
LT Vol	78	37	25	29
Through Vol	42	59	100	57
RT Vol	15	62	50	63
Lane Flow Rate	147	172	190	162
Geometry Grp	1	1	1	1
Degree of Util (X)	0.206	0.226	0.251	0.214
Departure Headway (Hd)	5.042	4.735	4.755	4.767
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	706	752	749	747
Service Time	3.114	2.802	2.822	2.839
HCM Lane V/C Ratio	0.208	0.229	0.254	0.217
HCM Control Delay	9.4	9.2	9.4	9.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.9	1	0.8

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	29	57	63
Future Vol, veh/h	0	29	57	63
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	32	62	68
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.2
HCM LOS	A

Intersection	
Intersection Delay, s/veh	16.2
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	94	151	125	0	31	125	62	0	116	81	38
Future Vol, veh/h	0	94	151	125	0	31	125	62	0	116	81	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	102	164	136	0	34	136	67	0	126	88	41
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	19.8	13.7	14.9
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	49%	25%	14%	33%
Vol Thru, %	34%	41%	57%	32%
Vol Right, %	16%	34%	28%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	235	370	218	224
LT Vol	116	94	31	75
Through Vol	81	151	125	71
RT Vol	38	125	62	78
Lane Flow Rate	255	402	237	243
Geometry Grp	1	1	1	1
Degree of Util (X)	0.459	0.661	0.412	0.43
Departure Headway (Hd)	6.463	5.916	6.266	6.359
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	557	611	573	565
Service Time	4.523	3.967	4.327	4.421
HCM Lane V/C Ratio	0.458	0.658	0.414	0.43
HCM Control Delay	14.9	19.8	13.7	14.2
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	2.4	4.9	2	2.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	75	71	78
Future Vol, veh/h	0	75	71	78
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	82	77	85
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.2
HCM LOS	B

Intersection	
Intersection Delay, s/veh	5.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	171	190	147	162
Demand Flow Rate, veh/h	174	194	150	165
Vehicles Circulating, veh/h	124	175	139	226
Vehicles Exiting, veh/h	267	114	159	143
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.3	5.9	5.2	5.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	174	194	150	165
Cap Entry Lane, veh/h	998	949	983	901
Entry HV Adj Factor	0.981	0.978	0.981	0.980
Flow Entry, veh/h	171	190	147	162
Cap Entry, veh/h	979	928	964	884
V/C Ratio	0.174	0.205	0.153	0.183
Control Delay, s/veh	5.3	5.9	5.2	5.9
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	1

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	402	237	255	244
Demand Flow Rate, veh/h	410	242	261	250
Vehicles Circulating, veh/h	198	323	355	303
Vehicles Exiting, veh/h	355	293	253	262
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.3	7.8	8.6	7.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	410	242	261	250
Cap Entry Lane, veh/h	927	818	792	835
Entry HV Adj Factor	0.980	0.980	0.978	0.978
Flow Entry, veh/h	402	237	255	244
Cap Entry, veh/h	908	802	775	816
V/C Ratio	0.442	0.296	0.329	0.300
Control Delay, s/veh	9.3	7.8	8.6	7.8
LOS	A	A	A	A
95th %tile Queue, veh	2	1	1	1

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	75	80	37	44	137
Future Vol, veh/h	63	75	80	37	44	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	82	87	40	48	149

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	352	107	0	0	127	0
Stage 1	107	-	-	-	-	-
Stage 2	245	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	646	947	-	-	1459	-
Stage 1	917	-	-	-	-	-
Stage 2	796	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	623	947	-	-	1459	-
Mov Cap-2 Maneuver	623	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	767	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	765	1459	-
HCM Lane V/C Ratio	-	-	0.196	0.033	-
HCM Control Delay (s)	-	-	10.9	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	78	94	197	94	113	161
Future Vol, veh/h	78	94	197	94	113	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	102	214	102	123	175

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	686	265	0	0	316	0
Stage 1	265	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	413	774	-	-	1244	-
Stage 1	779	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	368	774	-	-	1244	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	779	-	-	-	-	-
Stage 2	589	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	3.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	516	1244	-
HCM Lane V/C Ratio	-	-	0.362	0.099	-
HCM Control Delay (s)	-	-	15.9	8.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.6	0.3	-

Intersection	
Intersection Delay, s/veh	4.9
Intersection LOS	A

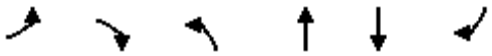
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	150	127	197
Demand Flow Rate, veh/h	153	130	201
Vehicles Circulating, veh/h	89	49	69
Vehicles Exiting, veh/h	90	221	173
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.9	4.5	5.3
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	153	130	201
Cap Entry Lane, veh/h	1034	1076	1055
Entry HV Adj Factor	0.980	0.979	0.980
Flow Entry, veh/h	150	127	197
Cap Entry, veh/h	1013	1053	1034
V/C Ratio	0.148	0.121	0.191
Control Delay, s/veh	4.9	4.5	5.3
LOS	A	A	A
95th %tile Queue, veh	1	0	1

Intersection	
Intersection Delay, s/veh	6.6
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	187	316	298
Demand Flow Rate, veh/h	191	322	303
Vehicles Circulating, veh/h	218	125	87
Vehicles Exiting, veh/h	229	265	322
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.2	7.0	6.5
Approach LOS	A	A	A

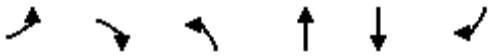
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	191	322	303
Cap Entry Lane, veh/h	909	997	1036
Entry HV Adj Factor	0.979	0.981	0.982
Flow Entry, veh/h	187	316	298
Cap Entry, veh/h	890	978	1017
V/C Ratio	0.210	0.323	0.293
Control Delay, s/veh	6.2	7.0	6.5
LOS	A	A	A
95th %tile Queue, veh	1	1	1



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	163	95	129	393	15
Future Volume (Veh/h)	25	163	95	129	393	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	177	103	140	427	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				1194		
pX, platoon unblocked						
vC, conflicting volume	781	435	443			
vC1, stage 1 conf vol	435					
vC2, stage 2 conf vol	346					
vCu, unblocked vol	781	435	443			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	72	91			
cM capacity (veh/h)	531	621	1117			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	27	177	103	140	443
Volume Left	27	0	103	0	0
Volume Right	0	177	0	0	16
cSH	531	621	1117	1700	1700
Volume to Capacity	0.05	0.28	0.09	0.08	0.26
Queue Length 95th (ft)	4	29	8	0	0
Control Delay (s)	12.1	13.1	8.5	0.0	0.0
Lane LOS	B	B	A		
Approach Delay (s)	13.0		3.6		0.0
Approach LOS	B				

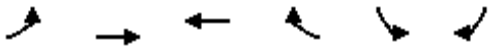
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	203	245	399	281	38
Future Volume (Veh/h)	31	203	245	399	281	38
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	221	266	434	305	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				1194		
pX, platoon unblocked						
vC, conflicting volume	1292	326	346			
vC1, stage 1 conf vol	326					
vC2, stage 2 conf vol	966					
vCu, unblocked vol	1292	326	346			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	69	78			
cM capacity (veh/h)	275	716	1213			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	34	221	266	434	346
Volume Left	34	0	266	0	0
Volume Right	0	221	0	0	41
cSH	275	716	1213	1700	1700
Volume to Capacity	0.12	0.31	0.22	0.26	0.20
Queue Length 95th (ft)	10	33	21	0	0
Control Delay (s)	20.0	12.3	8.8	0.0	0.0
Lane LOS	C	B	A		
Approach Delay (s)	13.3		3.3		0.0
Approach LOS	B				

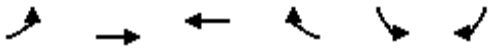
Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	132	196	513	15	25	225
Future Volume (Veh/h)	132	196	513	15	25	225
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	143	213	558	16	27	245
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)			1111			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	574				1065	566
vC1, stage 1 conf vol					566	
vC2, stage 2 conf vol					499	
vCu, unblocked vol	487				1024	479
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	85				94	54
cM capacity (veh/h)	984				420	537

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	143	213	574	27	245
Volume Left	143	0	0	27	0
Volume Right	0	0	16	0	245
cSH	984	1700	1700	420	537
Volume to Capacity	0.15	0.13	0.34	0.06	0.46
Queue Length 95th (ft)	13	0	0	5	59
Control Delay (s)	9.3	0.0	0.0	14.2	17.2
Lane LOS	A			B	C
Approach Delay (s)	3.7		0.0	16.9	
Approach LOS				C	

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	339	574	477	38	31	281
Future Volume (Veh/h)	339	574	477	38	31	281
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	368	624	518	41	34	305
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)			1111			
pX, platoon unblocked						
vC, conflicting volume	559				1898	538
vC1, stage 1 conf vol					538	
vC2, stage 2 conf vol					1360	
vCu, unblocked vol	559				1898	538
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	64				77	44
cM capacity (veh/h)	1012				145	543

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	368	624	559	34	305
Volume Left	368	0	0	34	0
Volume Right	0	0	41	0	305
cSH	1012	1700	1700	145	543
Volume to Capacity	0.36	0.37	0.33	0.23	0.56
Queue Length 95th (ft)	42	0	0	22	86
Control Delay (s)	10.6	0.0	0.0	37.2	19.8
Lane LOS	B			E	C
Approach Delay (s)	3.9		0.0	21.5	
Approach LOS				C	

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

APPENDIX E

Queuing Analysis Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	51	312	111	82	945	139	279	69	155	233	148
v/c Ratio	0.26	0.24	0.17	0.18	0.74	0.43	0.69	0.16	0.53	0.57	0.32
Control Delay	15.7	19.7	4.2	18.3	30.7	25.3	43.8	2.3	28.4	38.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	19.7	4.2	18.3	30.7	25.3	43.8	2.3	28.4	38.7	7.2
Queue Length 50th (ft)	16	67	0	35	291	58	162	0	66	130	0
Queue Length 95th (ft)	26	100	9	m45	329	69	218	1	110	211	35
Internal Link Dist (ft)		2328			1890		987			5221	
Turn Bay Length (ft)	150		60	150		125		125	100		100
Base Capacity (vph)	200	1274	636	449	1278	326	405	429	295	409	456
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.24	0.17	0.18	0.74	0.43	0.69	0.16	0.53	0.57	0.32

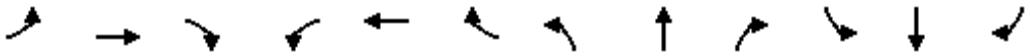
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	101	812	205	124	877	176	420	159	115	269	115
v/c Ratio	0.49	0.77	0.37	0.57	0.78	0.52	0.80	0.30	0.51	0.58	0.24
Control Delay	23.7	34.3	12.8	24.6	34.2	24.3	43.5	8.9	27.8	35.8	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	34.3	12.8	24.6	34.2	24.3	43.5	8.9	27.8	35.8	6.5
Queue Length 50th (ft)	35	238	39	46	298	70	241	16	44	145	0
Queue Length 95th (ft)	65	314	93	m60	m346	108	274	48	75	211	29
Internal Link Dist (ft)		2328			1890		987			5221	
Turn Bay Length (ft)	150		60	150		125		125	100		100
Base Capacity (vph)	206	1061	549	218	1131	344	525	528	226	466	477
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.77	0.37	0.57	0.78	0.51	0.80	0.30	0.51	0.58	0.24

Intersection Summary

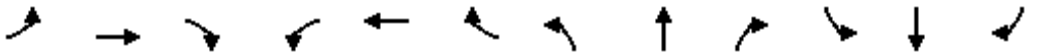
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	48	537	97	196	1036	209	122	303	141	180	288	163
v/c Ratio	0.24	0.47	0.15	0.49	0.72	0.28	0.51	0.50	0.32	0.56	0.72	0.35
Control Delay	14.7	25.6	0.5	24.2	38.7	14.5	32.2	39.0	2.8	30.4	45.7	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	25.6	0.5	24.2	38.7	14.5	32.2	39.0	2.8	30.4	45.7	7.1
Queue Length 50th (ft)	14	134	0	96	368	57	53	92	0	82	168	0
Queue Length 95th (ft)	31	191	0	m133	441	m92	97	136	10	138	#280	49
Internal Link Dist (ft)		2328			1890			987			2072	
Turn Bay Length (ft)	150		60	150		150	125		125	100		100
Base Capacity (vph)	202	1134	639	421	1445	735	241	606	440	333	400	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.47	0.15	0.47	0.72	0.28	0.51	0.50	0.32	0.54	0.72	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



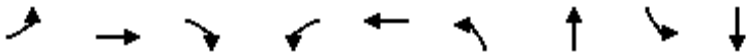
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	122	1438	245	278	1180	198	198	423	349	122	307	124
v/c Ratio	0.61	1.05	0.36	1.27	0.79	0.26	1.14	0.70	0.87	0.66	1.09	0.37
Control Delay	23.6	66.2	10.6	172.8	13.3	1.0	141.6	43.9	44.5	48.5	119.5	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	66.2	10.6	172.8	13.3	1.0	141.6	43.9	44.5	48.5	119.5	11.7
Queue Length 50th (ft)	30	~528	48	~178	204	0	~105	132	122	59	~221	5
Queue Length 95th (ft)	#60	#663	105	m#234	m330	m3	#243	186	#288	#125	#388	55
Internal Link Dist (ft)		2328			1890			987			2132	
Turn Bay Length (ft)	150		60	150		150	125		125	100		100
Base Capacity (vph)	201	1370	675	219	1492	748	174	607	399	184	282	334
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	1.05	0.36	1.27	0.79	0.26	1.14	0.70	0.87	0.66	1.09	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

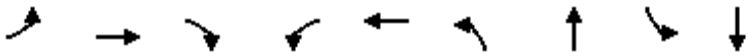
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	150	305	197	802	381	495	135	496
v/c Ratio	0.17	0.21	0.23	0.45	0.76	0.87	0.47	0.43	0.75
Control Delay	21.7	34.3	0.9	19.2	27.3	40.8	21.8	20.9	42.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	34.3	0.9	19.2	27.3	40.8	21.8	20.9	42.8
Queue Length 50th (ft)	13	49	4	62	234	160	101	46	151
Queue Length 95th (ft)	m27	76	10	87	#334	196	104	73	#232
Internal Link Dist (ft)		1890			2082		1020		1940
Turn Bay Length (ft)	175		50	125		125		100	
Base Capacity (vph)	175	723	1333	448	1057	469	1058	333	665
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.21	0.23	0.44	0.76	0.81	0.47	0.41	0.75

Intersection Summary

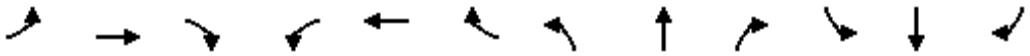
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	136	557	427	100	576	449	786	238	358
v/c Ratio	0.60	0.61	0.32	0.44	0.74	0.85	0.78	0.76	0.54
Control Delay	36.7	41.2	0.5	32.2	41.5	33.2	34.0	36.9	35.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	41.2	0.5	32.2	41.5	33.2	34.0	36.9	35.9
Queue Length 50th (ft)	83	194	0	45	165	187	216	82	99
Queue Length 95th (ft)	m104	250	0	71	229	#326	250	#190	152
Internal Link Dist (ft)		1890			3832		1020		1940
Turn Bay Length (ft)	175		50	125		125		100	
Base Capacity (vph)	229	918	1333	226	779	566	1003	346	661
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.61	0.32	0.44	0.74	0.79	0.78	0.69	0.54

Intersection Summary

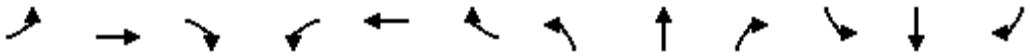
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	323	382	302	913	240	384	350	190	146	534	246
v/c Ratio	0.52	0.37	0.29	0.61	0.77	0.36	0.74	0.48	0.40	0.44	0.76	0.53
Control Delay	32.6	43.3	0.8	17.3	28.2	3.0	31.3	35.2	7.5	25.2	43.6	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	43.3	0.8	17.3	28.2	3.0	31.3	35.2	7.5	25.2	43.6	12.9
Queue Length 50th (ft)	55	110	1	96	275	9	86	102	0	61	167	25
Queue Length 95th (ft)	96	158	0	m142	327	m23	#124	148	55	108	229	100
Internal Link Dist (ft)		1890			3832			1020			1940	
Turn Bay Length (ft)	175		200	125		200	125		200	100		200
Base Capacity (vph)	220	883	1333	525	1183	673	524	730	470	344	704	464
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.37	0.29	0.58	0.77	0.36	0.73	0.48	0.40	0.42	0.76	0.53

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



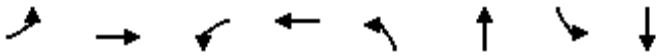
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	339	1043	511	252	829	174	580	683	413	284	432	262
v/c Ratio	1.09	1.01	0.38	1.06	0.93	0.33	0.90	1.06	0.82	1.07	0.73	0.56
Control Delay	95.8	41.9	0.2	93.1	47.8	5.8	42.8	90.3	27.5	102.2	45.9	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.8	41.9	0.2	93.1	47.8	5.8	42.8	90.3	27.5	102.2	45.9	9.9
Queue Length 50th (ft)	~209	~294	0	~131	276	11	140	~252	85	~157	136	3
Queue Length 95th (ft)	m#217	m#297	m0	m#248	m#366	m29	#214	#367	#254	#323	192	74
Internal Link Dist (ft)		1890			3832			1020			1940	
Turn Bay Length (ft)	175		200	125		200	125		200	100		200
Base Capacity (vph)	310	1037	1333	238	896	522	644	646	503	266	590	470
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	1.01	0.38	1.06	0.93	0.33	0.90	1.06	0.82	1.07	0.73	0.56

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

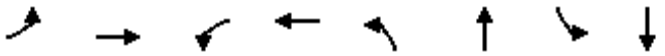
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	96	379	47	479	69	57	8	346
v/c Ratio	0.29	0.45	0.12	0.55	0.32	0.11	0.02	0.52
Control Delay	9.0	7.3	8.3	14.3	25.9	13.1	21.3	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	7.3	8.3	14.3	25.9	13.1	21.3	8.8
Queue Length 50th (ft)	27	90	13	194	30	14	3	30
Queue Length 95th (ft)	8	118	12	292	42	3	13	0
Internal Link Dist (ft)		3832		760		3424		895
Turn Bay Length (ft)	100		100					
Base Capacity (vph)	336	841	404	869	213	539	400	666
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.45	0.12	0.55	0.32	0.11	0.02	0.52

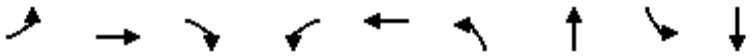
Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	158	657	20	444	63	77	4	216
v/c Ratio	0.32	0.63	0.06	0.42	0.37	0.21	0.02	0.47
Control Delay	11.0	14.4	5.0	7.2	36.9	14.7	29.8	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	14.4	5.0	7.2	36.9	14.7	29.8	11.0
Queue Length 50th (ft)	49	252	3	90	33	15	2	16
Queue Length 95th (ft)	44	m207	3	113	43	20	11	0
Internal Link Dist (ft)		3832		760		3424		895
Turn Bay Length (ft)	100		100					
Base Capacity (vph)	487	1044	347	1056	171	370	260	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.63	0.06	0.42	0.37	0.21	0.02	0.47

Intersection Summary

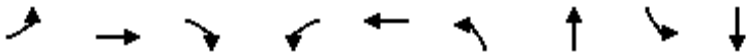
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	121	352	110	79	766	62	93	27	298
v/c Ratio	0.46	0.34	0.12	0.15	0.75	0.45	0.23	0.10	0.68
Control Delay	10.1	3.8	0.3	7.5	17.4	27.3	9.4	29.7	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	3.8	0.3	7.5	17.4	27.3	9.4	29.7	30.1
Queue Length 50th (ft)	11	30	0	17	296	17	12	13	110
Queue Length 95th (ft)	33	35	0	36	460	m18	m13	36	207
Internal Link Dist (ft)		3832			760		3424		2586
Turn Bay Length (ft)	100			100		100		100	
Base Capacity (vph)	262	1027	911	532	1025	137	400	278	438
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.34	0.12	0.15	0.75	0.45	0.23	0.10	0.68

Intersection Summary

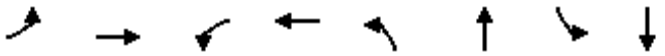
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	310	968	93	68	774	55	226	34	362
v/c Ratio	0.98	0.87	0.10	0.33	0.70	0.89	0.72	0.28	1.00
Control Delay	36.7	10.6	0.2	10.6	12.3	108.3	38.4	41.1	77.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	10.6	0.2	10.6	12.3	108.3	38.4	41.1	77.3
Queue Length 50th (ft)	195	509	0	14	241	19	64	19	171
Queue Length 95th (ft)	m#222	m540	m0	39	375	m#59	m#123	49	#363
Internal Link Dist (ft)		3832			760		3424		2586
Turn Bay Length (ft)	100			100		100		100	
Base Capacity (vph)	316	1118	977	206	1111	62	315	122	362
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.87	0.10	0.33	0.70	0.89	0.72	0.28	1.00

Intersection Summary

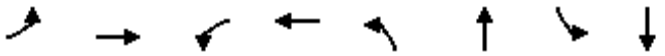
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	16	225	5	386	117	186	72	532
v/c Ratio	0.10	0.46	0.02	0.80	0.38	0.22	0.13	0.63
Control Delay	14.9	16.4	13.0	31.7	13.9	8.9	8.9	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.9	16.4	13.0	31.7	13.9	8.9	8.9	14.3
Queue Length 50th (ft)	4	51	1	118	23	33	12	120
Queue Length 95th (ft)	15	99	7	#208	65	69	33	234
Internal Link Dist (ft)		1031		4112		1506		1114
Turn Bay Length (ft)	125		100		150		125	
Base Capacity (vph)	188	561	319	560	311	850	544	838
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.40	0.02	0.69	0.38	0.22	0.13	0.63

Intersection Summary

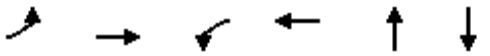
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	90	568	4	411	136	506	88	439
v/c Ratio	0.37	0.90	0.03	0.65	0.50	0.72	0.38	0.63
Control Delay	17.1	36.1	10.8	18.5	20.6	22.1	18.3	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	36.1	10.8	18.5	20.6	22.1	18.3	17.8
Queue Length 50th (ft)	21	165	1	100	35	148	21	116
Queue Length 95th (ft)	55	#347	6	184	88	#297	58	207
Internal Link Dist (ft)		1031		4112		1506		1114
Turn Bay Length (ft)	125		100		150		125	
Base Capacity (vph)	259	662	150	661	274	701	230	696
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.86	0.03	0.62	0.50	0.72	0.38	0.63

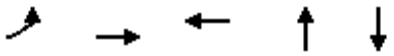
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	24	120	4	757	4	125
v/c Ratio	0.07	0.06	0.01	0.43	0.01	0.35
Control Delay	1.7	1.8	7.0	10.5	27.5	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.7	1.8	7.0	10.5	27.5	27.1
Queue Length 50th (ft)	1	3	1	89	2	41
Queue Length 95th (ft)	1	5	1	141	6	100
Internal Link Dist (ft)		913		1774	437	277
Turn Bay Length (ft)	350		325			
Base Capacity (vph)	384	1860	699	1751	415	358
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.06	0.01	0.43	0.01	0.35

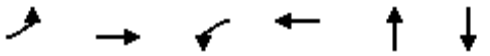
Intersection Summary



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	12	366	398	8	285
v/c Ratio	0.04	0.31	0.34	0.01	0.48
Control Delay	5.4	10.8	11.8	12.0	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.4	10.8	11.8	12.0	16.7
Queue Length 50th (ft)	2	92	40	2	84
Queue Length 95th (ft)	m3	76	77	3	83
Internal Link Dist (ft)		913	1774	437	277
Turn Bay Length (ft)	350				
Base Capacity (vph)	303	1177	1155	740	590
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.31	0.34	0.01	0.48

Intersection Summary

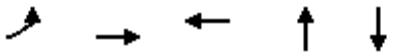
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	10	132	1	912	3	240
v/c Ratio	0.04	0.08	0.00	0.56	0.01	0.55
Control Delay	2.1	2.6	10.0	13.1	21.7	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.1	2.6	10.0	13.1	21.7	24.5
Queue Length 50th (ft)	1	4	0	135	1	88
Queue Length 95th (ft)	m2	m6	3	241	8	169
Internal Link Dist (ft)		913		1774	437	277
Turn Bay Length (ft)	350		325			
Base Capacity (vph)	263	1623	607	1624	541	438
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.08	0.00	0.56	0.01	0.55

Intersection Summary

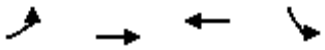
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	10	442	620	2	485
v/c Ratio	0.05	0.42	0.53	0.00	0.76
Control Delay	5.2	13.0	11.0	10.0	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	13.0	11.0	10.0	27.0
Queue Length 50th (ft)	2	109	49	1	225
Queue Length 95th (ft)	m3	m119	118	4	377
Internal Link Dist (ft)		913	1774	437	277
Turn Bay Length (ft)	350				
Base Capacity (vph)	187	1057	1171	814	635
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.05	0.42	0.53	0.00	0.76

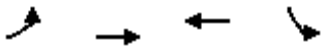
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



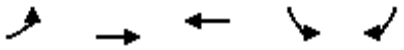
Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	197	906	457	145
v/c Ratio	0.30	0.37	0.22	0.63
Control Delay	3.3	3.0	9.4	37.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.3	3.0	9.4	37.2
Queue Length 50th (ft)	16	48	62	24
Queue Length 95th (ft)	45	99	114	73
Internal Link Dist (ft)		2716	1386	3424
Turn Bay Length (ft)	100			
Base Capacity (vph)	773	2457	2055	444
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.37	0.22	0.33

Intersection Summary



Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	197	906	457	145
v/c Ratio	0.30	0.37	0.22	0.63
Control Delay	3.3	3.0	4.6	31.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.3	3.0	4.6	31.3
Queue Length 50th (ft)	16	48	30	29
Queue Length 95th (ft)	45	99	75	54
Internal Link Dist (ft)		2716	1386	3424
Turn Bay Length (ft)	100			
Base Capacity (vph)	773	2457	2055	444
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.37	0.22	0.33

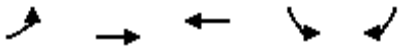
Intersection Summary



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	172	489	1528	171	171
v/c Ratio	0.75	0.23	0.89	0.46	0.46
Control Delay	39.1	4.8	24.1	12.5	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	4.8	24.1	12.5	11.3
Queue Length 50th (ft)	53	45	308	6	6
Queue Length 95th (ft)	#147	63	#407	m61	m55
Internal Link Dist (ft)		2716	1386	3424	
Turn Bay Length (ft)	100			100	
Base Capacity (vph)	245	2166	1724	375	371
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.70	0.23	0.89	0.46	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	411	1446	872	23	278
v/c Ratio	0.83	0.67	0.64	0.08	0.59
Control Delay	28.0	9.3	22.7	32.4	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	9.3	22.7	32.4	8.9
Queue Length 50th (ft)	127	221	169	12	18
Queue Length 95th (ft)	238	287	210	m26	m45
Internal Link Dist (ft)		2716	1386	3424	
Turn Bay Length (ft)	100			100	
Base Capacity (vph)	578	2160	1356	275	473
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.67	0.64	0.08	0.59

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	36	277	34	12	842	157	153
v/c Ratio	0.12	0.16	0.04	0.02	0.53	0.48	0.29
Control Delay	9.0	9.6	0.6	10.0	26.7	32.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	9.6	0.6	10.0	26.7	32.4	6.6
Queue Length 50th (ft)	8	33	0	5	262	77	4
Queue Length 95th (ft)	15	42	0	5	297	96	48
Internal Link Dist (ft)		1386			1488	601	706
Turn Bay Length (ft)	100		150	25			
Base Capacity (vph)	293	1713	794	548	1589	329	528
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.16	0.04	0.02	0.53	0.48	0.29

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	148	692	110	16	344	120	115
v/c Ratio	0.26	0.39	0.13	0.04	0.23	0.36	0.28
Control Delay	8.2	10.8	2.4	5.5	15.3	32.2	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	10.8	2.4	5.5	15.3	32.2	15.1
Queue Length 50th (ft)	34	97	0	4	74	59	22
Queue Length 95th (ft)	44	122	14	5	106	46	44
Internal Link Dist (ft)		1386			1488	601	706
Turn Bay Length (ft)	100		150	25			
Base Capacity (vph)	622	1792	845	420	1502	338	416
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.39	0.13	0.04	0.23	0.36	0.28

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	41	449	29	5	1251	142	175
v/c Ratio	0.20	0.24	0.03	0.01	0.71	0.59	0.38
Control Delay	9.5	8.4	0.2	2.6	14.8	42.6	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	8.4	0.2	2.6	14.8	42.6	10.7
Queue Length 50th (ft)	9	55	0	1	349	77	17
Queue Length 95th (ft)	m20	76	m2	m1	416	145	72
Internal Link Dist (ft)		1386			1488	601	706
Turn Bay Length (ft)	100		150	25			
Base Capacity (vph)	202	1865	858	513	1750	241	463
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.24	0.03	0.01	0.71	0.59	0.38

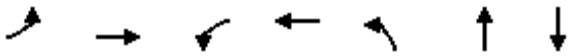
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	152	1208	118	9	734	95	128
v/c Ratio	0.35	0.58	0.12	0.03	0.42	0.43	0.37
Control Delay	6.3	7.8	1.4	2.8	6.2	40.4	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.3	7.8	1.4	2.8	6.2	40.4	16.1
Queue Length 50th (ft)	26	140	0	0	112	51	20
Queue Length 95th (ft)	m41	170	m11	m1	m132	102	73
Internal Link Dist (ft)		1386			1488	601	706
Turn Bay Length (ft)	100		150	25			
Base Capacity (vph)	458	2070	962	271	1732	221	344
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.58	0.12	0.03	0.42	0.43	0.37

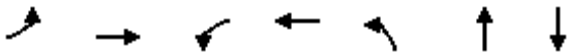
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



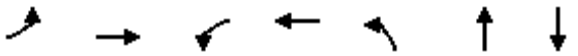
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	43	256	8	687	64	80	248
v/c Ratio	0.15	0.18	0.02	0.51	0.20	0.13	0.47
Control Delay	13.7	15.1	8.7	14.9	21.0	19.3	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	15.1	8.7	14.9	21.0	19.3	12.6
Queue Length 50th (ft)	19	54	2	171	25	31	42
Queue Length 95th (ft)	37	71	2	92	45	45	38
Internal Link Dist (ft)		1323		2503		1420	1506
Turn Bay Length (ft)	375		375		100		
Base Capacity (vph)	285	1448	483	1341	318	616	528
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.18	0.02	0.51	0.20	0.13	0.47

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	137	524	97	201	42	89	209
v/c Ratio	0.28	0.46	0.28	0.19	0.11	0.14	0.41
Control Delay	16.1	29.5	14.8	20.3	18.5	16.8	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	29.5	14.8	20.3	18.5	16.8	20.9
Queue Length 50th (ft)	66	172	26	36	16	30	96
Queue Length 95th (ft)	75	235	18	58	32	55	126
Internal Link Dist (ft)		1323		2503		1420	1506
Turn Bay Length (ft)	375		375		100		
Base Capacity (vph)	501	1132	373	1041	376	643	516
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.46	0.26	0.19	0.11	0.14	0.41

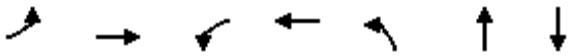
Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	198	217	4	774	66	75	495
v/c Ratio	0.62	0.14	0.01	0.69	0.38	0.13	0.71
Control Delay	32.7	21.2	7.2	22.4	31.5	21.2	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	21.2	7.2	22.4	31.5	21.2	15.8
Queue Length 50th (ft)	112	53	1	215	31	30	94
Queue Length 95th (ft)	187	100	m1	300	72	62	224
Internal Link Dist (ft)		1323		2503		1420	1506
Turn Bay Length (ft)	375		375		100		
Base Capacity (vph)	355	1538	440	1119	173	569	700
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.14	0.01	0.69	0.38	0.13	0.71

Intersection Summary

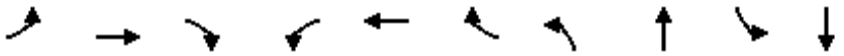
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	513	664	43	263	45	93	527
v/c Ratio	0.96	0.52	0.20	0.44	0.21	0.15	0.88
Control Delay	51.9	25.2	16.5	32.7	20.4	17.8	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	25.2	16.5	32.7	20.4	17.8	40.2
Queue Length 50th (ft)	345	226	12	68	17	33	242
Queue Length 95th (ft)	#408	296	m24	m88	39	67	#463
Internal Link Dist (ft)		1323		2503		1420	1506
Turn Bay Length (ft)	375		375		100		
Base Capacity (vph)	537	1282	215	592	217	639	597
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.52	0.20	0.44	0.21	0.15	0.88

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

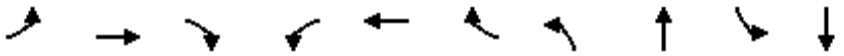


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	8	359	139	12	525	4	292	110	1	183
v/c Ratio	0.05	0.58	0.23	0.04	0.85	0.01	0.64	0.16	0.00	0.26
Control Delay	10.6	17.8	3.3	9.9	25.6	0.2	22.9	10.6	11.0	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	17.8	3.3	9.9	25.6	0.2	22.9	10.6	11.0	9.6
Queue Length 50th (ft)	2	91	0	1	103	0	83	21	0	30
Queue Length 95th (ft)	8	157	25	m5	#300	m0	#197	49	3	68
Internal Link Dist (ft)		1090			1843			3069		857
Turn Bay Length (ft)	125		100	125		100	200		75	
Base Capacity (vph)	182	692	666	306	692	603	457	706	488	704
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.52	0.21	0.04	0.76	0.01	0.64	0.16	0.00	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

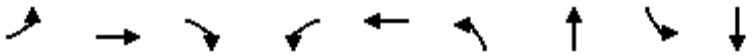
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	30	675	207	42	485	5	210	244	16	200
v/c Ratio	0.10	0.88	0.27	0.25	0.63	0.01	0.60	0.44	0.05	0.36
Control Delay	8.3	28.0	2.7	12.3	13.7	0.6	26.7	18.4	14.7	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.3	28.0	2.7	12.3	13.7	0.6	26.7	18.4	14.7	16.3
Queue Length 50th (ft)	5	185	2	4	108	0	64	68	4	50
Queue Length 95th (ft)	17	#384	28	m20	218	m0	#154	127	15	100
Internal Link Dist (ft)		1090			1843			3009		857
Turn Bay Length (ft)	125		100	125		100	200		75	
Base Capacity (vph)	308	823	791	178	823	712	349	559	316	559
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.82	0.26	0.24	0.59	0.01	0.60	0.44	0.05	0.36

Intersection Summary

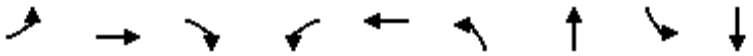
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	8	99	261	10	169	355	213	5	272
v/c Ratio	0.04	0.33	0.56	0.05	0.56	0.58	0.21	0.01	0.27
Control Delay	16.1	20.4	17.2	18.0	27.8	18.3	10.5	5.0	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	20.4	17.2	18.0	27.8	18.3	10.5	5.0	5.7
Queue Length 50th (ft)	3	38	60	3	55	116	55	1	33
Queue Length 95th (ft)	m6	m77	125	12	97	m187	m102	4	79
Internal Link Dist (ft)		1843			3827		1228		854
Turn Bay Length (ft)	100		100	100		160		150	
Base Capacity (vph)	292	470	582	326	470	610	1028	643	1025
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.21	0.45	0.03	0.36	0.58	0.21	0.01	0.27

Intersection Summary

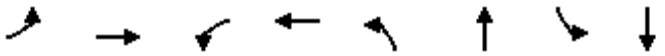
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	16	254	429	5	219	314	393	11	263
v/c Ratio	0.07	0.63	0.65	0.03	0.54	0.57	0.43	0.02	0.28
Control Delay	14.9	23.8	13.6	14.6	22.9	14.2	9.5	7.0	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.9	23.8	13.6	14.6	22.9	14.2	9.5	7.0	8.0
Queue Length 50th (ft)	6	102	89	1	65	64	70	2	42
Queue Length 95th (ft)	m6	m126	m126	8	113	158	143	8	89
Internal Link Dist (ft)		1843			3827		1228		854
Turn Bay Length (ft)	100		100	100		160		150	
Base Capacity (vph)	283	509	722	251	509	553	922	458	923
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.50	0.59	0.02	0.43	0.57	0.43	0.02	0.28

Intersection Summary

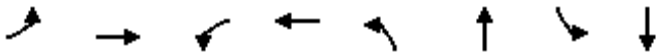
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	40	235	58	38	645	29	504
v/c Ratio	0.00	0.10	0.78	0.15	0.10	0.71	0.10	0.55
Control Delay	14.0	7.3	38.6	7.4	7.5	15.5	6.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	7.3	38.6	7.4	7.5	15.5	6.7	9.5
Queue Length 50th (ft)	0	1	74	2	6	150	3	80
Queue Length 95th (ft)	3	19	#164	24	19	#347	m13	143
Internal Link Dist (ft)		1031		3828		1890		1228
Turn Bay Length (ft)	100		100		275		100	
Base Capacity (vph)	347	443	353	456	374	903	282	916
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.09	0.67	0.13	0.10	0.71	0.10	0.55

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	44	271	68	51	971	74	625
v/c Ratio	0.01	0.12	0.96	0.18	0.15	1.00	0.58	0.63
Control Delay	21.8	11.0	77.1	8.7	7.0	45.5	31.7	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	11.0	77.1	8.7	7.0	45.5	31.7	12.0
Queue Length 50th (ft)	1	3	125	2	8	~387	17	155
Queue Length 95th (ft)	9	27	#269	31	23	#693	#90	256
Internal Link Dist (ft)		1031		3828		1890		1228
Turn Bay Length (ft)	100		100		275		100	
Base Capacity (vph)	275	367	281	380	335	967	127	992
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.12	0.96	0.18	0.15	1.00	0.58	0.63

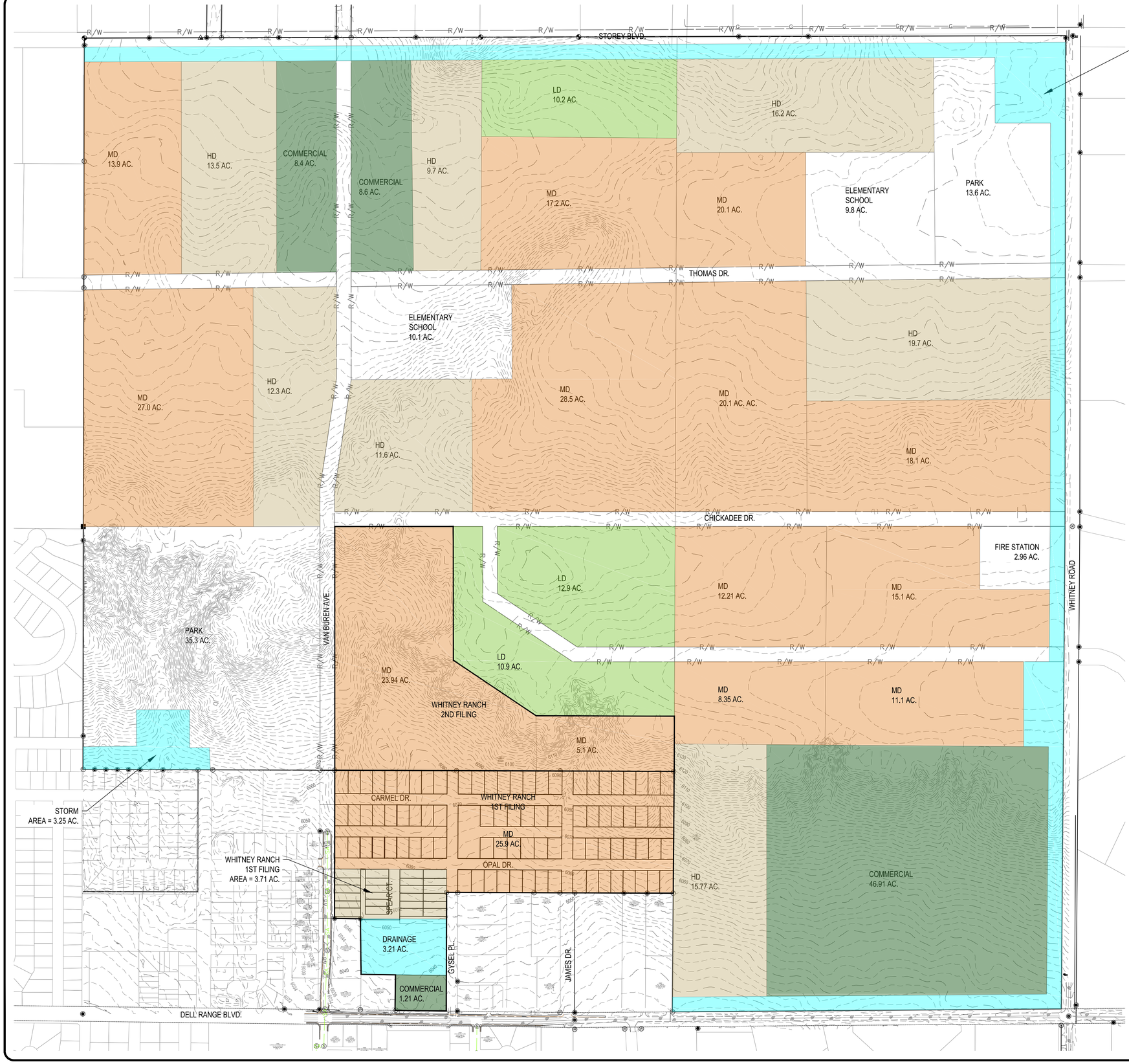
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

APPENDIX F

Conceptual Land Use Plan



NOTES:

1. DISTRICT DENSITIES WERE DERIVED FROM EXISTING SIMILAR SUBDIVISIONS. FOR REFERENCE, THE THE UNIFIED DEVELOPMENT CODE SUGGESTED DENSITIES ARE SHOWN IN (PARENTHESIS).
2. MODERATE DENSITY (LD) = 3 UNITS / ACRE (5-12)
3. MEDIUM DENSITY (MD) = 5 UNITS / ACRE (10-18)
4. HIGH DENSITY (HD) = 9 UNITS / ACRE (15+)

NO. | REVISION | DATE

PREPARED FOR:
WHITNEY RANCH LLC
6636 CEDAR AVE STE 300
RICHFIELD, MN 55423

PROJECT:
WHITNEY GYSEL

DRAWING TITLE:
WHITNEY RANCH
CONCEPTUAL LAND USE

ENGINEERING
PLANNING
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DATE: Sep 19, 2017
DRAWN BY: TDC
DESIGNED BY: BE/TDC
CHECKED BY: BE

JOB NO.: 3960

DRAWING NO. 1 OF

WHITNEY ROAD CORRIDOR STUDY

Whitney Ranch Meeting

March 7, 2018 @ 4:00 P.M.

•LIST OF ATTENDEES •

Please Initial To Record Attendance	NAME	COMPANY	EMAIL	CELL/ PHONE
TDC	Tom Cobb	AVI	cobb@avipc.com	(970)214-6542 (307)637-6017
TMM	Tom Mason	MPO	tmason@cheyennempo.org	(307)637-6299
BE	Brad Emmons	AVI	emmons@avipc.com	307.637.6017

Whitney Road Corridor Study
Whitney Ranch Meeting
March 7, 2018

I. Introduction and Sign In

II. Why Modification to Roadway Alignment

a. Impact to Petroleum high pressure lines in east and west side of roadway (Suncor 12.75" [2' to 5' deep: East] and Plains All American Pipeline 16" [4' to 14'-5" deep; West])
b. Road sight distance related to design speed
c. Roadway profile or longitudinal grade exceeds current standard 10% maximum snow 8%

III. Potential Benefits

a. Eliminate water and sewer crossing of petroleum line
b. Storm Sewer outlet Whitney Road to Whitney Ranch
c. Detention Area

IV. Primary Options
a. Alignment East
b. Alignment West
c. Other

V. Alternatives
a. Single travel lane each alignment south/ north
b. 3 Lane Section on new alignment
- ✓ Greenway old alignment

WHITNEY ROAD CORRIDOR STUDY

Whitney Ranch Meeting

August 8, 2018 @ 11:00 A.M.

• LIST OF ATTENDEES •

Please Initial To Record Attendance	NAME	COMPANY	EMAIL	CELL/ PHONE
TDC	Tom Cobb	AVI	cobb@avipc.com	(970)214-6542 (307)637-6017
CH	Connie Holgerson	Gysle Whitney, LLC	bholgerson@rtconnect.net	307.246.3294
	Brad Emmons	AVI	emmons@avipc.com	307.637.6017
	Joe Patterson	Guardian Development	joe@gulardiancompanies.com	307.220.1772
WH	Bill Holgerson	Gysel Whitney LLC	bholgerson@rtconnect.net	307.246.3294

Whitney Road Corridor Study

Whitney Ranch Meeting

16-Nov-18

* List of Attendees*

Please Initial to Confirm attendance	NAME	COMPANY	EMAIL	CELL/PHONE
TM	Tom Mason	MPO	tmason@cheyennempo.org	637-6299
	Tom Cobb	MPO	tcobb@cheyennempo.org	638-4384
	Joe Patterson	Guardian Development	joe@guardiancompanies.com	220-1772
	Connie Holgerson	Gysel Whitney, LLC	bholgerson@rtconnect.net	307-246-3294
	Bill Holgerson	Gysel Whitney, LLC	bholgerson@rtconnect.net	307-246-3294
NO	Nancy Olson	MPO	nolson@cheyennempo.org	638-4366

SUNCOR ENERGY USA PIPELINE
WHITNEY ROAD CORRIDOR STUDY

ENGINEERING PLANNING SURVEYING PC

May 9, 2017@ 2:00 P.M.

•*LIST OF ATTENDEES* •

Suncor Energy USA Pipeline Co 1715 Fleischli Blvd. Cheyenne, WY 82001

NAME	COMPANY	EMAIL	CELL/ PHONE
Tom Cobb	AVI	cobb@avipc.com	(970)214-6542 (307)637-6017
Dillon Ohrt	Suncor	dohrt@suncor.com	303-~~555~~ 549-8004
Barry McCann	Suncor	bmccann@Suncor.com	307-632-8219
Reggan Marsh	"	rmarsh@suncor.com	(307) 775-8110
Cameron Nuss	Suncor	CNUSS@Suncor.com	(307) 421-7842 ~~5555~~

ENGINEERING
PLANNING
SURVEYING

AGENDA

Subject:	Suncor Energy USA Pipeline		
Client:	Cheyenne MPO	Date:	May 10, 2017
Project:	Whitney Road Corridor Study	Project No:	2-3987.17
Meeting Date:	May 10, 2017 @ 2:00 pm	Meeting Location:	Suncor Energy USA Pipeline Co 1715 Fleischli Blvd. Cheyenne, WY 82001

I. Introductions

II. Introduce Whitney Project

III. Additional available pipeline data and details

- III.1 Verify datum
- III.2 Depth
- III.3 Marker location on pipeline or offset

IV. Ability to complete isolated relocation or realign of portion of pipeline

- IV.1 Procedure – logistics of process
- IV.2 Constraints
- IV.3 Typical Costs
- IV.4 Timing

WHITNEY ROAD 10% CORRIDOR PLAN

Suncor Energy USA Pipeline

May 10, 2017

STS

WYOMING TRANSPORTATION DEPARTMENT

CITY OF CHEYENNE

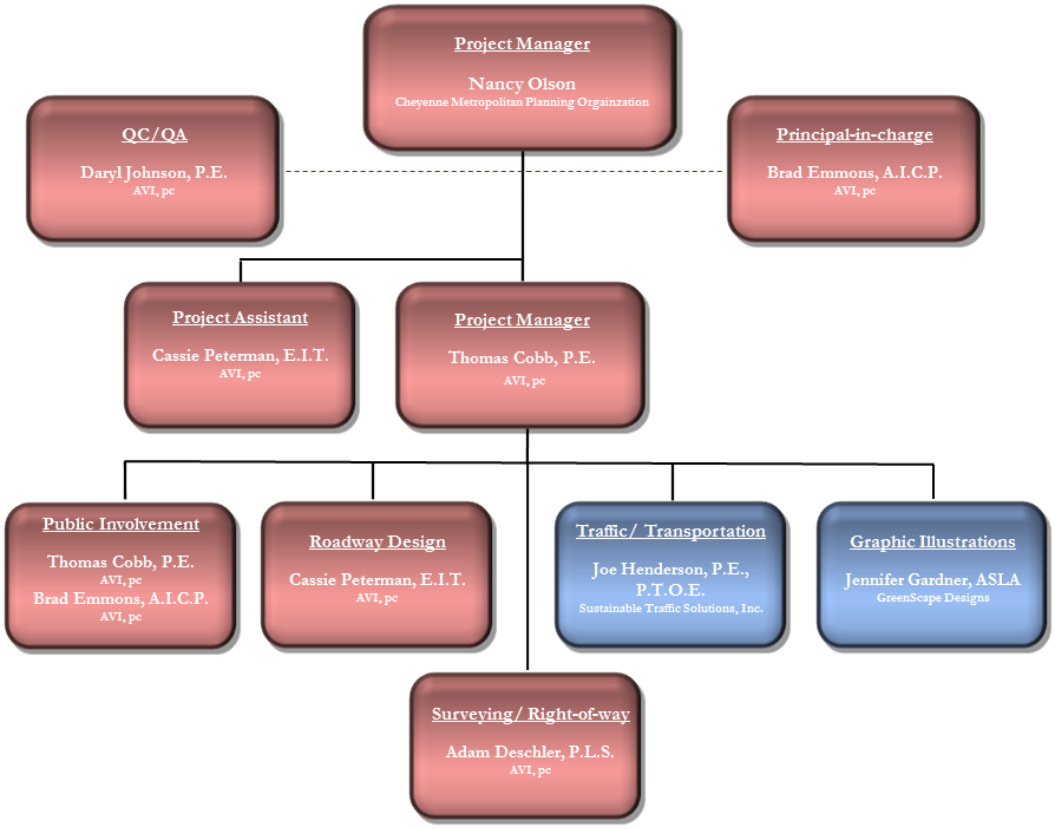
CHEYENNE MPO

THE GREAT SEAL OF LARAMIE COUNTY WYOMING 1867

ENGINEERING PLANNING SURVEYING PC

INTRODUCTIONS

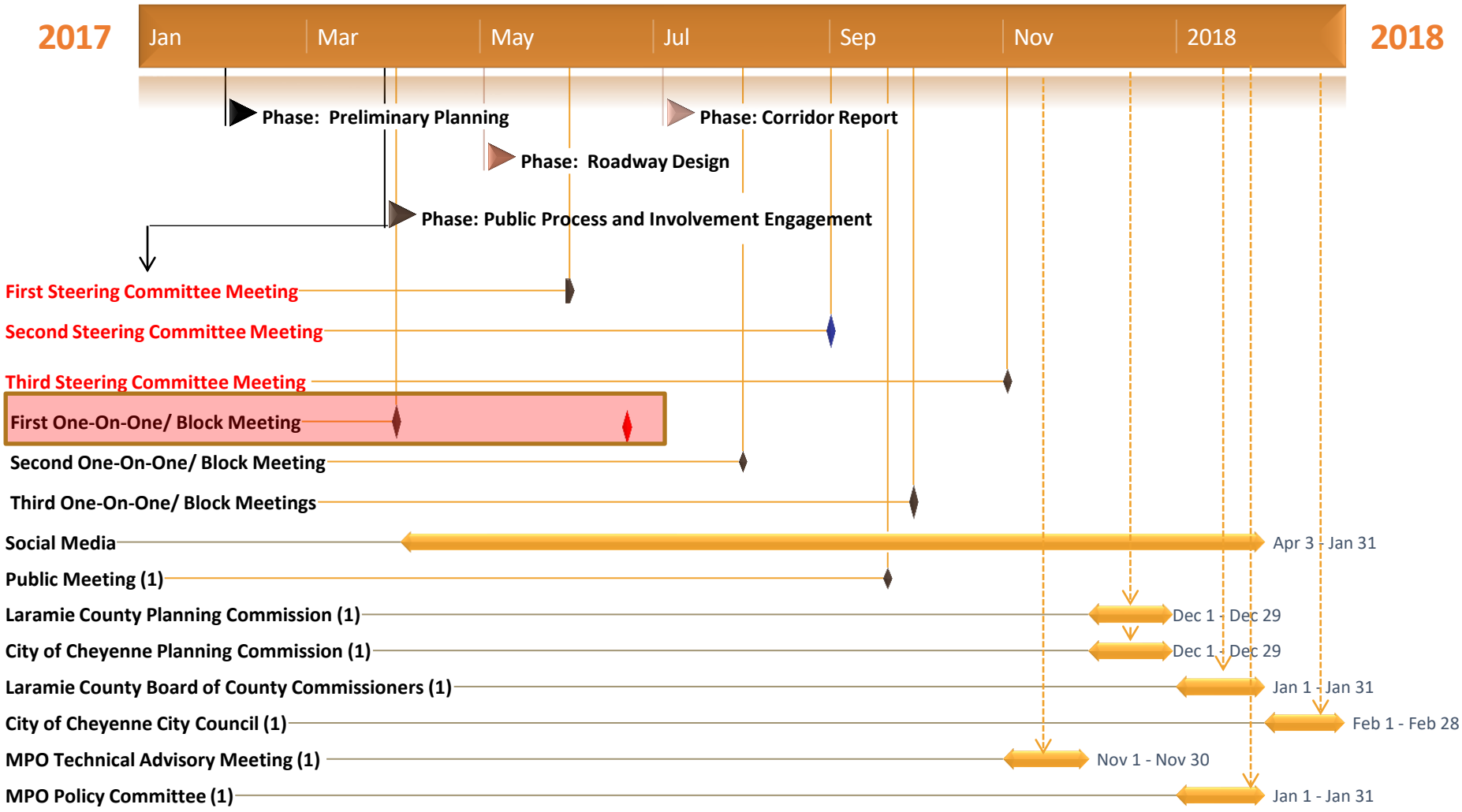
- Tom Cobb, PE
  - Project Manager/Public Involvement
- Cassie Pickett, EIT
  - Project Assistant/Road Design/Social Media
- Joe Henderson, PE
  - Traffic Engineer



PURPOSE, OBJECTIVES, AND GOALS

- **Purpose**
  - Create a comprehensive planning document that will optimize safety, growth and fiscal responsibility.
- **Objective**
  - Development of a 10% conceptual design for Whitney Road between U.S. 30 and Beckle Road/ Storey Blvd.
- **Goals:**
  - Improve intersection and roadway design,
  - Address considerations such as drainage and snow drifting
  - Follow a comprehensive planning and public involvement process strategy.

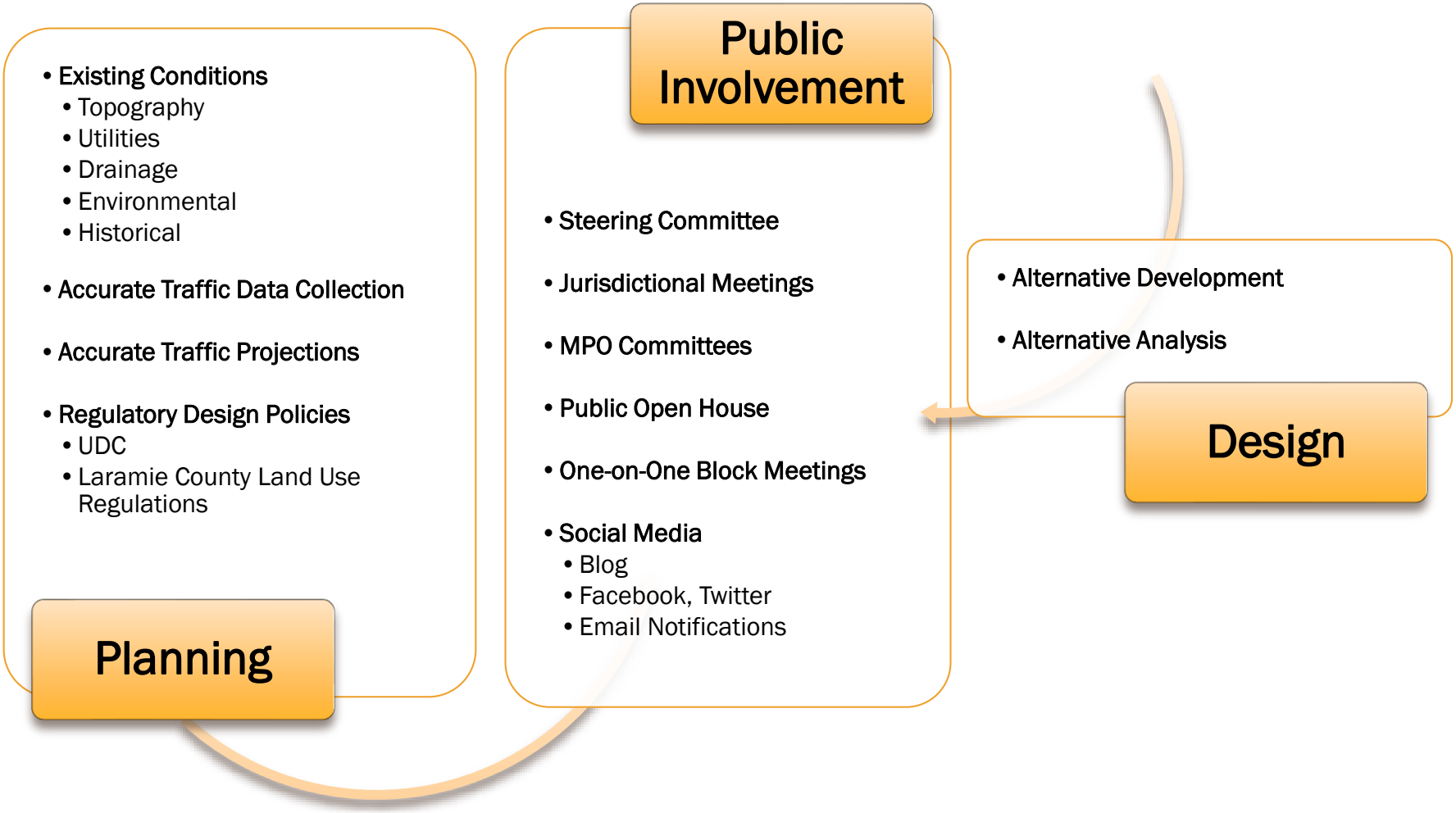
WHAT TO EXPECT



WHAT TO EXPECT?

PROJECT MILESTONES	MILESTONE DATES
Notice to Proceed	March 1, 2017
Initial Kickoff Meeting MPO	March 22, 2017 @2:00
Traffic Counts	April 4, 2017
Steering Committee Meetings	May 9, 2017: August/ September, October, 2017
Neighborhood Block Meeting #1, #2, and #3	June, July, and August, 2017
Open House/Public Meeting	September, 2017
Draft Plan	October, 2017
Submit to MPO for Final Adoption	November, 2017
Presentation to the Governing Body	January/ February, 2018

WHAT TO EXPECT – OVERALL APPROACH

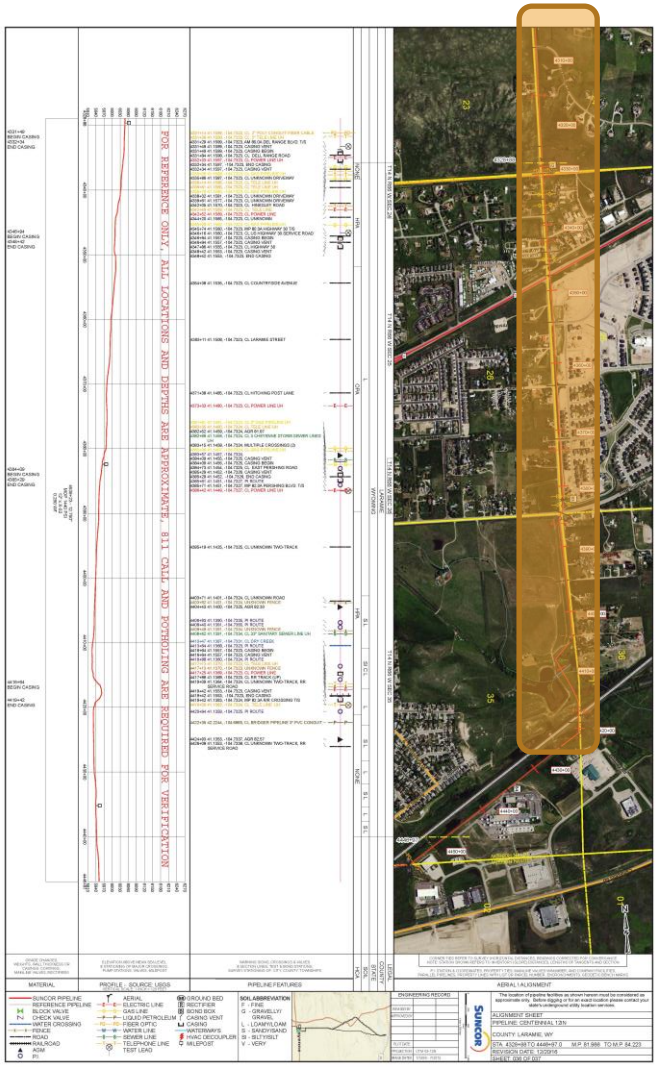


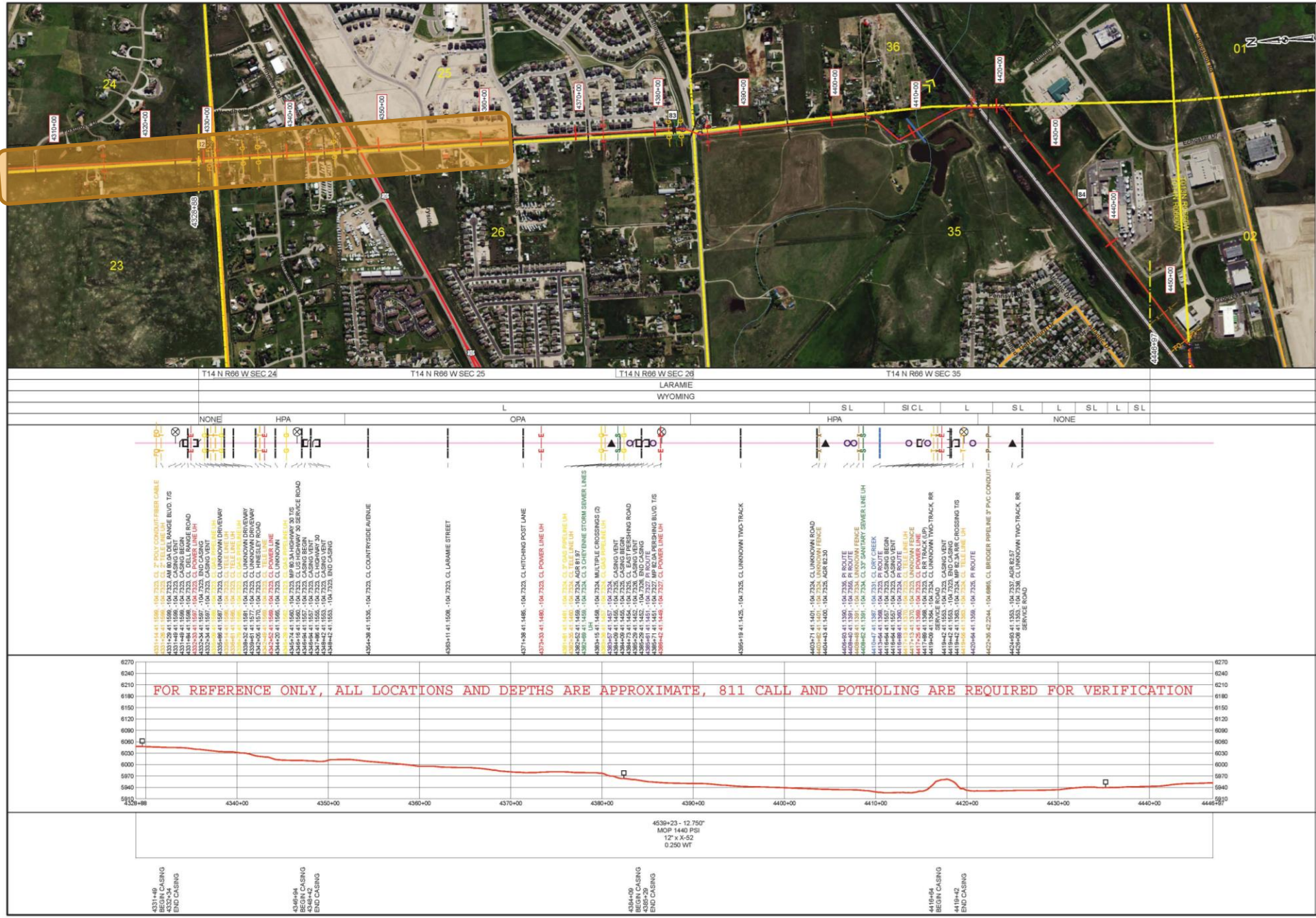
CONSTRAINTS AND OPPORTUNITIES

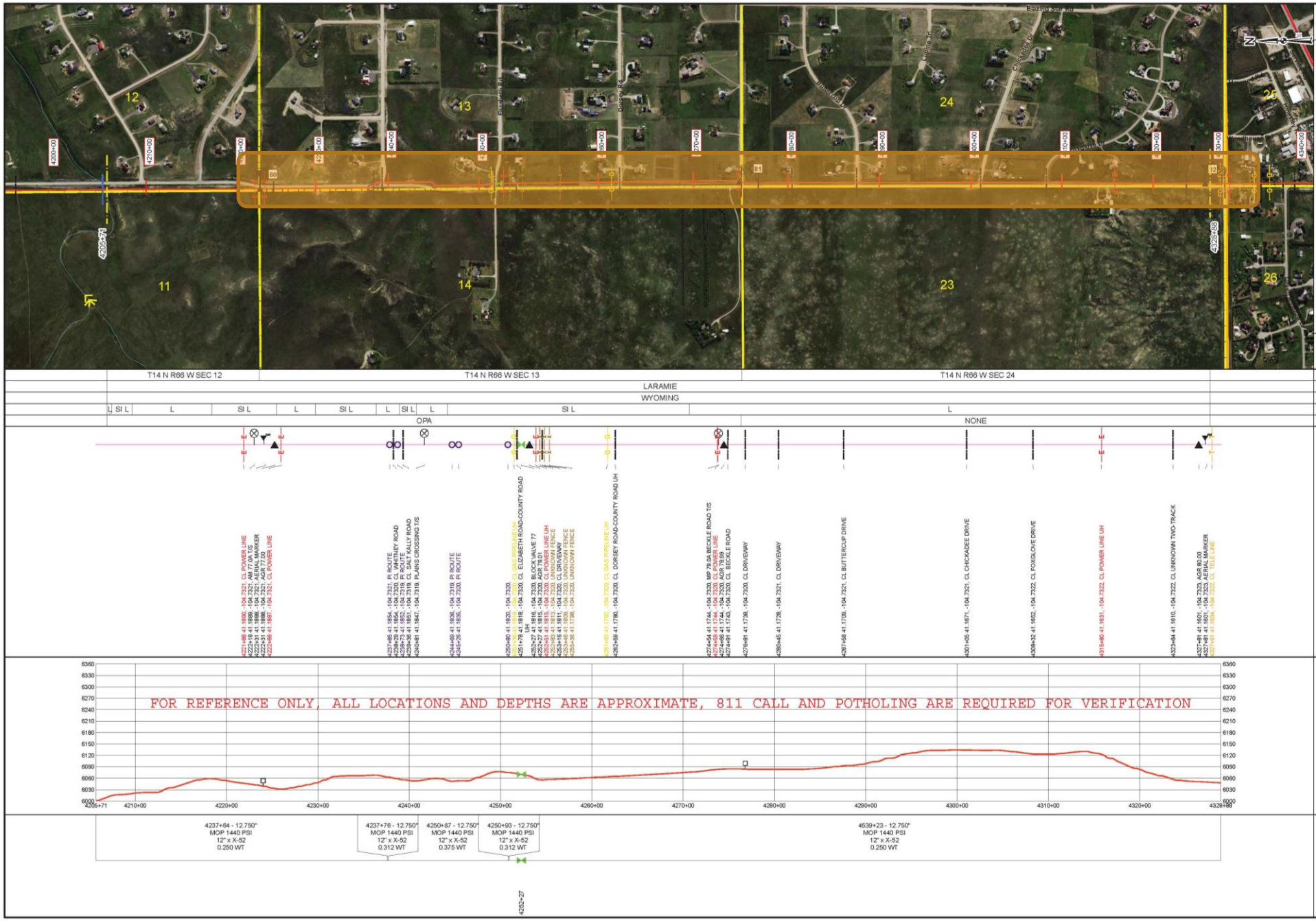
- Utilities
  - Blackhills Energy
  - High West Energy
  - Suncor Energy
  - Plains All American Pipeline System, LLC
  - Qwest
  - BOPU

CONSTRAINTS AND OPPORTUNITIES

- Suncor Energy
  - 12.75” Steel Crude Line
  - 1,440 psi
  - 2’ to 5’ deep (East Side)
  - Dillon R. Ohrt, SR/WA
    - Right of Way and Public Awareness Coordinator
    - Suncor Energy (U.S.A.) Pipeline Company
  - Meeting scheduled 5/10/17 at Suncor Office

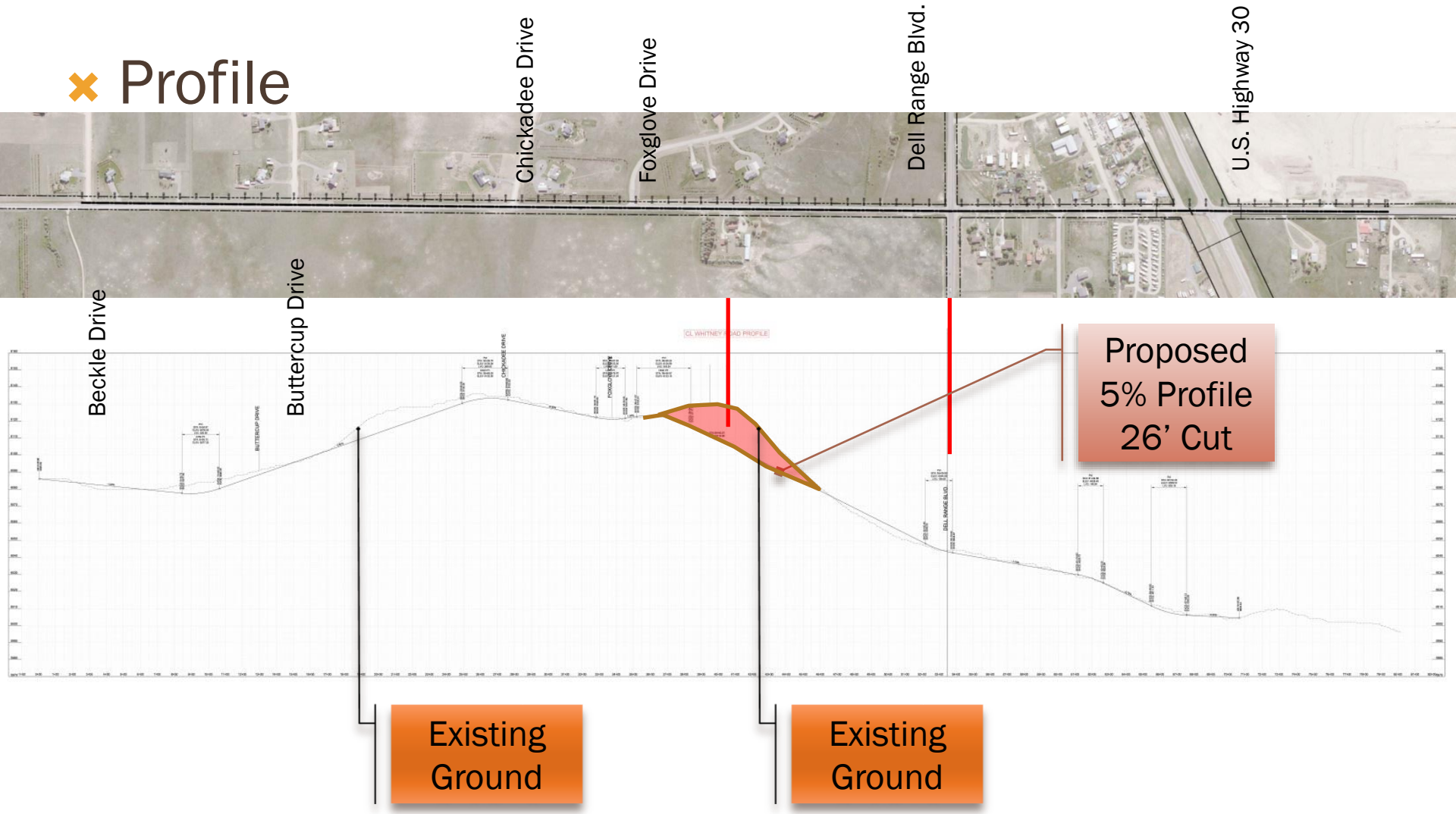



T14 N R66 W SEC 24
T14 N R66 W SEC 25
T14 N R66 W SEC 26
T14 N R66 W SEC 35
LARAMIE
WYOMING
NONE
HPA
OPA
HPA
NONE
FOR REFERENCE ONLY, ALL LOCATIONS AND DEPTHS ARE APPROXIMATE, 811 CALL AND POTHOLING ARE REQUIRED FOR VERIFICATION
4539+23 - 12.750"
MOP 1440 PSI
12" x X-52
0.250 WT


T14 N R66 W SEC 12
T14 N R66 W SEC 13
T14 N R66 W SEC 24
LARAMIE
WYOMING
OPA
NONE
FOR REFERENCE ONLY, ALL LOCATIONS AND DEPTHS ARE APPROXIMATE, 811 CALL AND POTHOLING ARE REQUIRED FOR VERIFICATION
4237+64 - 12.750" MOP 1440 PSI 12" x X-52 0.250 WT
4237+76 - 12.750" MOP 1440 PSI 12" x X-52 0.312 WT
4250+87 - 12.750" MOP 1440 PSI 12" x X-52 0.375 WT
4250+93 - 12.750" MOP 1440 PSI 12" x X-52 0.312 WT
4539+23 - 12.750" MOP 1440 PSI 12" x X-52 0.250 WT

CONSTRAINTS AND OPPORTUNITIES

- Profile



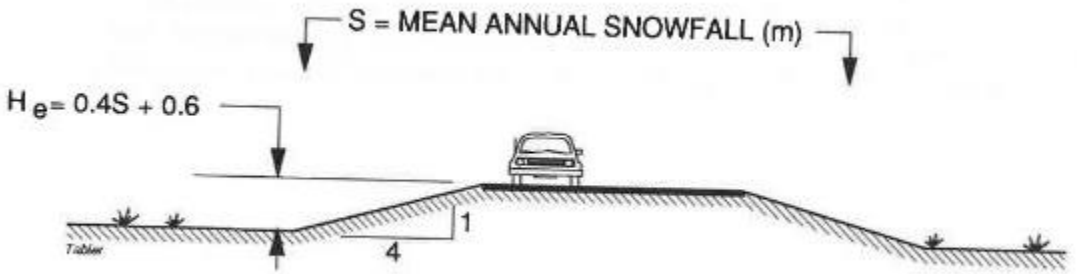
CONSTRAINTS AND OPPORTUNITIES

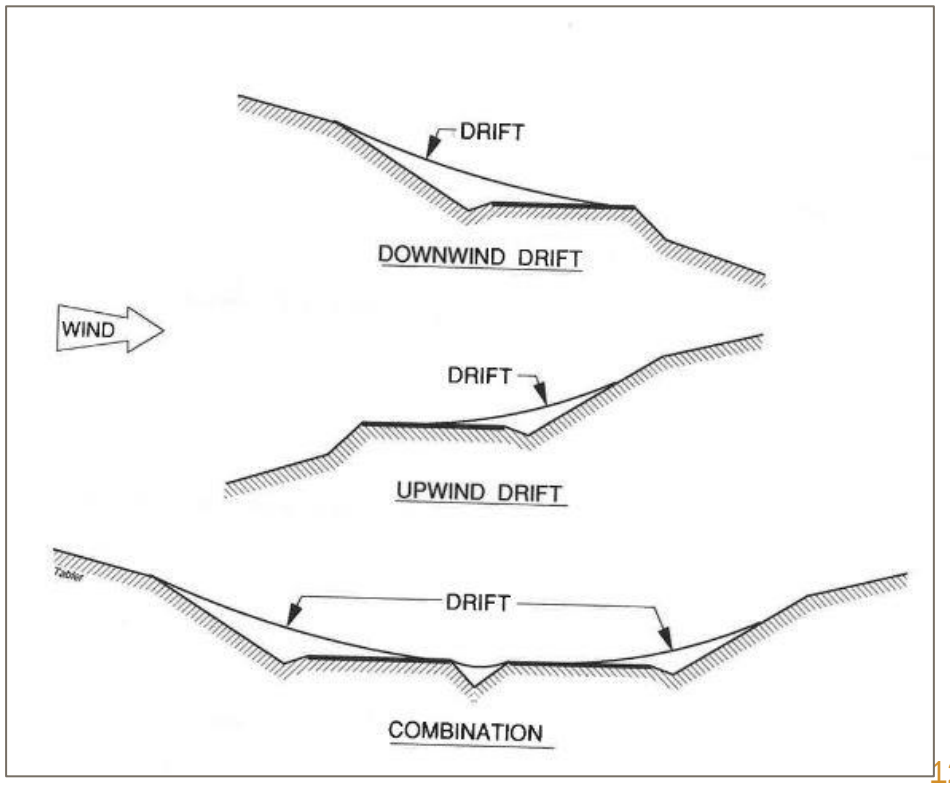
- Snow Transport
  - Fill Sections
    - Minimum Height

      He = 0.4S + 0.6

      He = 0.4(1.53m)+0.6m

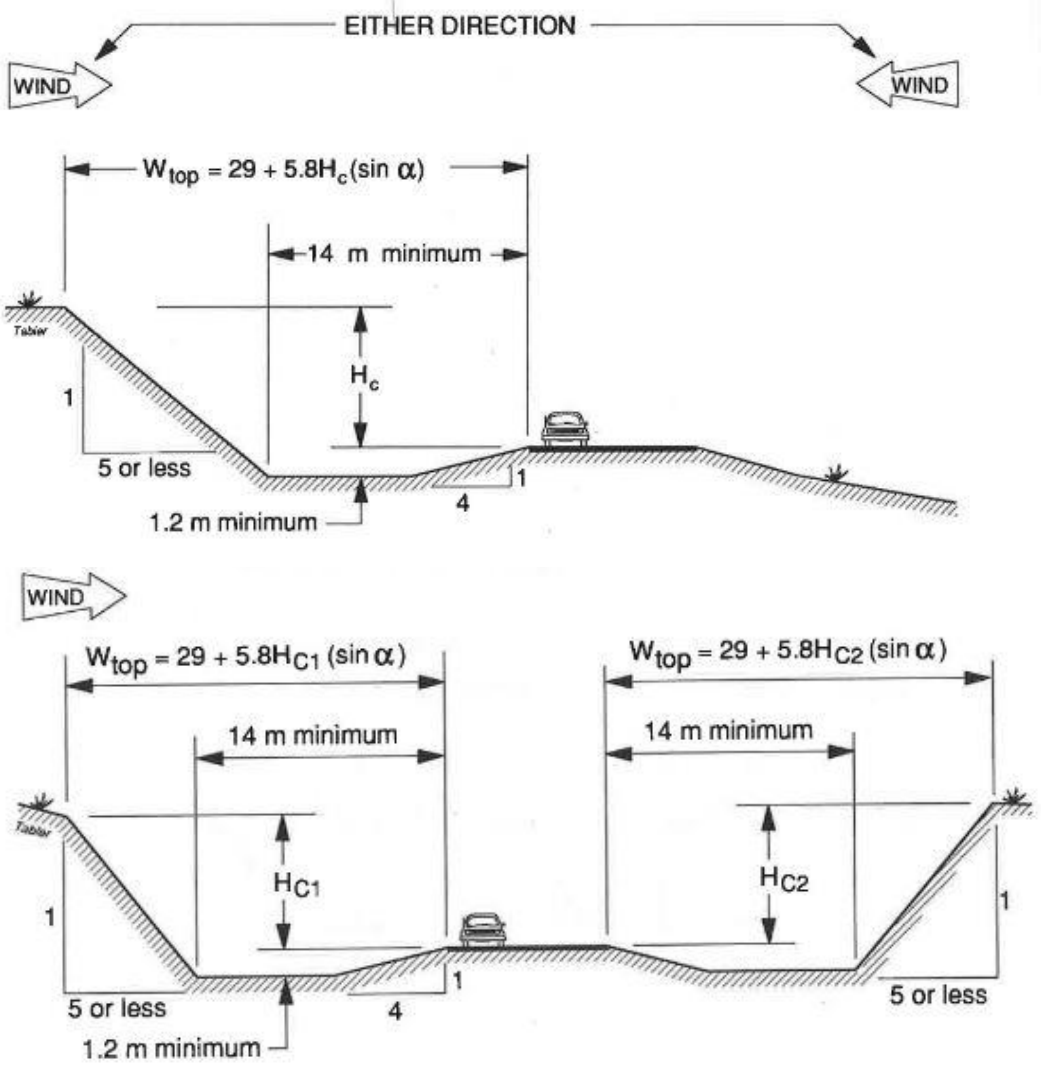
      He = 1.21 m (4')
  - Cut Sections



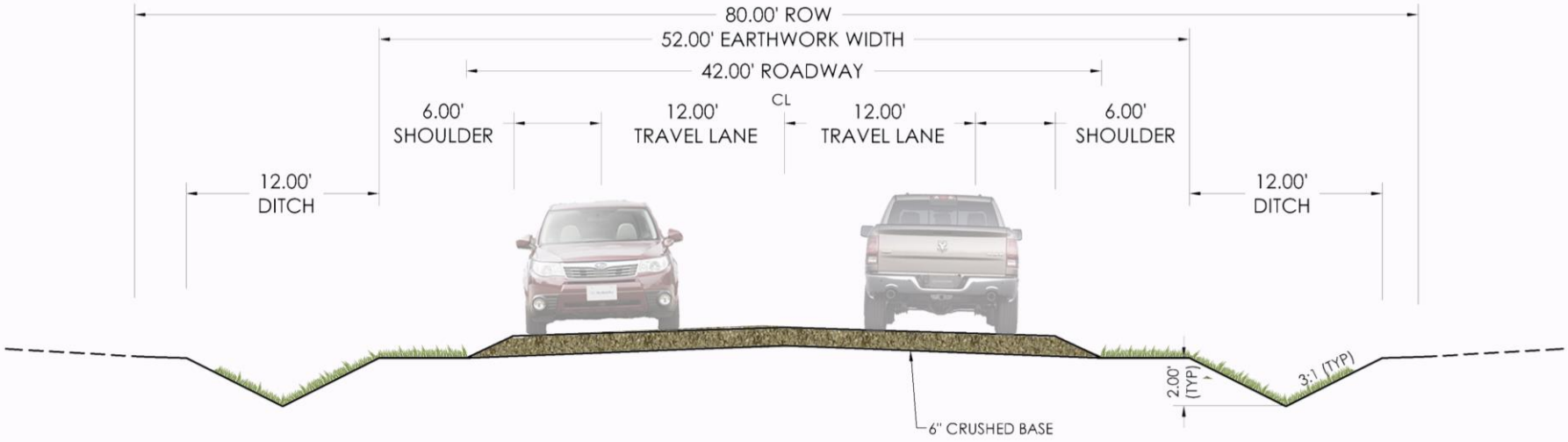


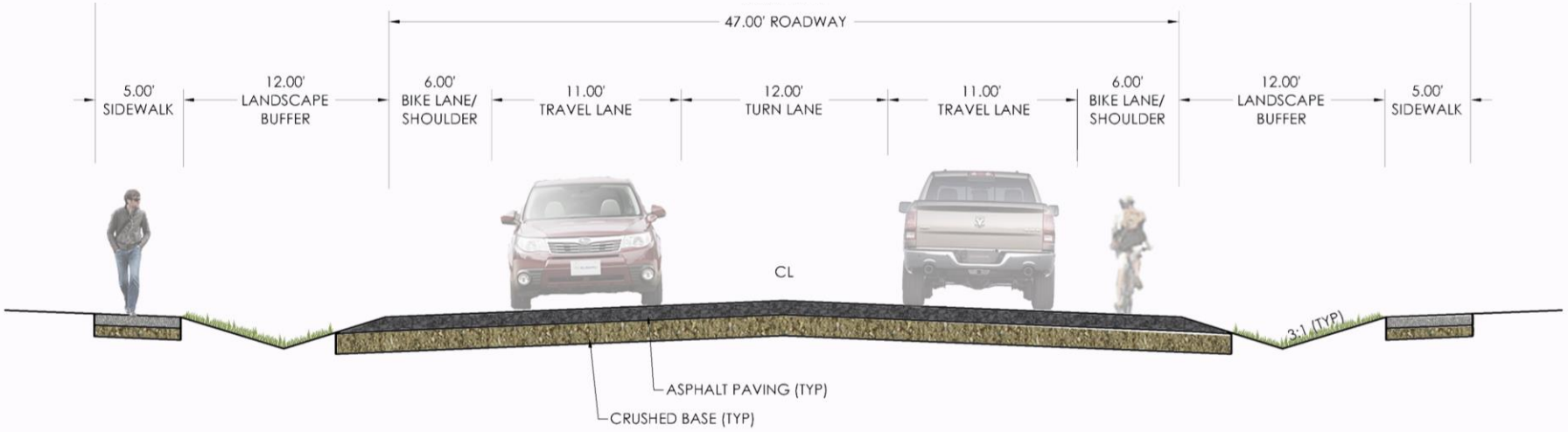
CONSTRAINTS AND OPPORTUNITIES

- Snow Transport
  - Cut Sections



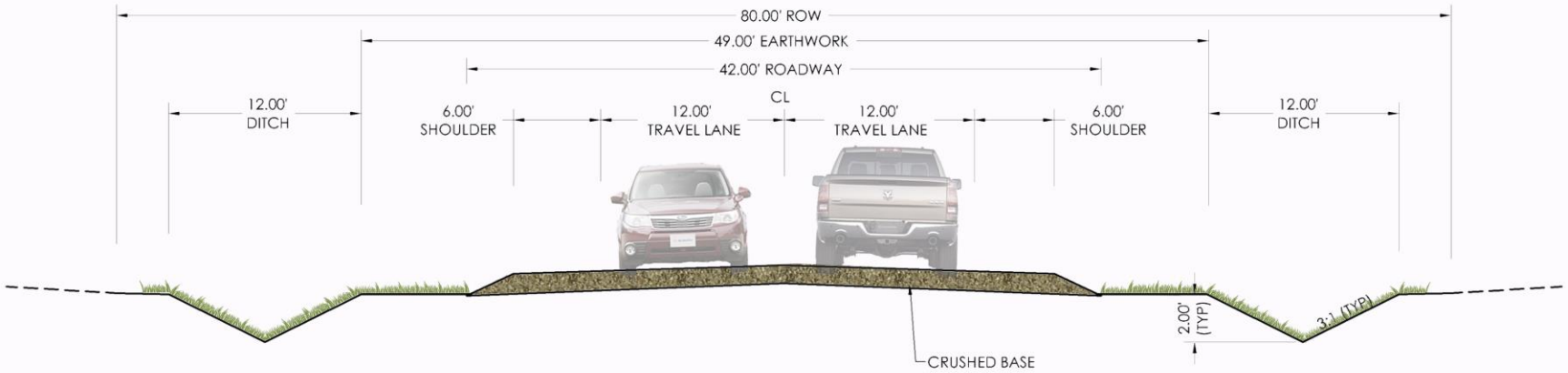
INITIAL CONCEPTS



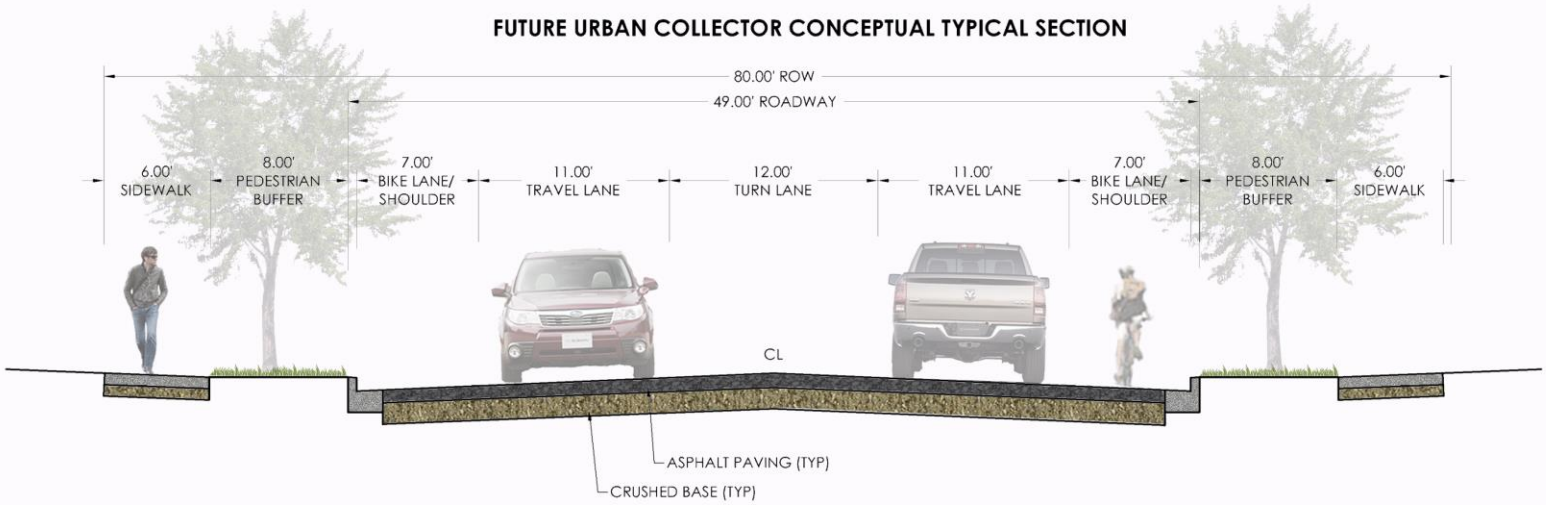


INITIAL CONCEPTS

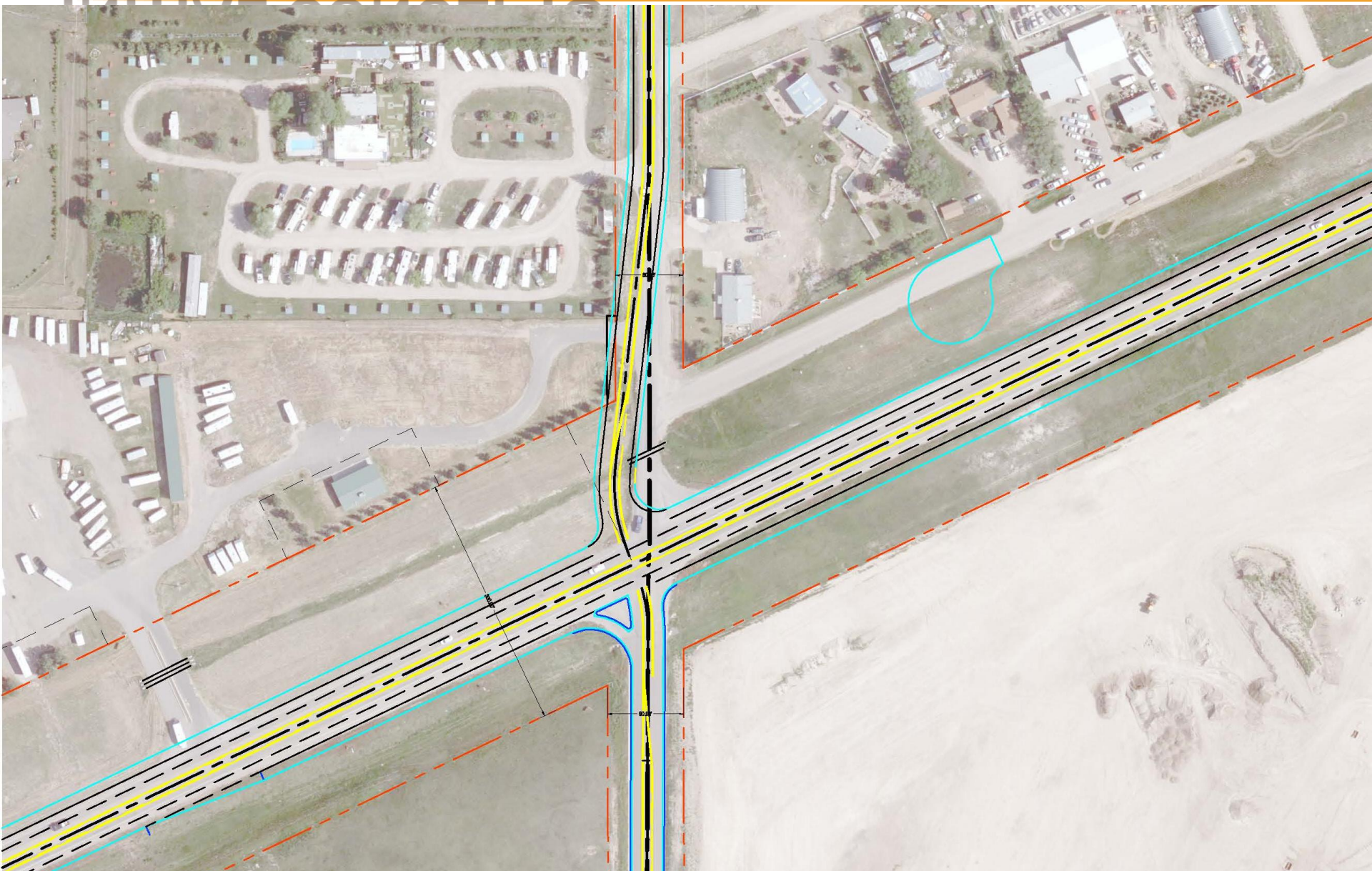
PROPOSED URBAN COLLECTOR CONCEPTUAL TYPICAL SECTION



FUTURE URBAN COLLECTOR CONCEPTUAL TYPICAL SECTION



INITIAL CONCEPTS



PLAINS ALL AMERICAN PIPELINE
WHITNEY ROAD CORRIDOR STUDY

October 19, 2017@ 9:45 A.M.

●*LIST OF ATTENDEES* ●

Plains All American Pipeline 1103 Old Town Lane, Suite 101. Cheyenne, WY 82001

NAME	COMPANY	EMAIL	CELL/ PHONE
Tom Cobb	AVI	cobb@avipc.com	(970)214-6542 (307)637-6017
Nancy Olson	MPO	nolson@cheyennempo.org	(307)638-4366
Steve Sullivan, ROW	PAALP	sdsullivan@paalp.com	(307) 472-9900
Jason Norris, Op. Supervisor	PAALP	jrnorris@paalp.com	(307) 837-2121
Tyler Keller, Dist. Mgr.	PAALP	tckeller@paalp.com	(307) 268-4535
Eric Heap, Tech. Mgr	PAALP	ejheap@paalp.com	(307) 472-9902

MEETING MINTUES

Subject:	Plains all American Pipeline		
Client:		Date:	
Project:	Whitney Road Corridor Study	Project No:	2-3987.17
Meeting Date:	October 19, 2017 @ 9:45 am	Meeting Location:	1103 Old Town Lane, Suite 101 Cheyenne, WY 82009
Agenda Status:			

ATTENDEES:
Tom Cobb, AVI
Nancy Olson, MPO
Steve Sullivan, ROW, PAALP
Jason Norris, Op. Supervisor, PAALP
Tyler Keller, Dist. Mgr., PAALP
Eric Heap, Tech. Mgr., PAALP

TOPICS FOR DISCUSSION:

I. 16”
   a. Pothole Location, coordinate
   b. Conventional line
   c. Horizontal location ± | $500

II. Jason Norris (Contract)

III. Easement BK #1976, P. 1815, Steve

IV. Retaining Walls
   a. Foundation Type (Key Steve)
   b. 10” From Footer
   c. Cover min. 4’ TOD. | Standard

d. Eric Authouy

e. Rodway Traffic

f. 100' to 500' Budget Cost } $ Additional Detail
Time Frame }
E Forward | Group

g. Shut down? No

H:\3987_WHITNEYR\Meetings\Highplains\20171019_Meeting Minutes.Docx

WHITNEY ROAD 10% CORRIDOR PLAN

High Plains Pipeline

October 19, 2017

STS

WYOMING TRANSPORTATION DEPARTMENT

CITY OF CHEYENNE

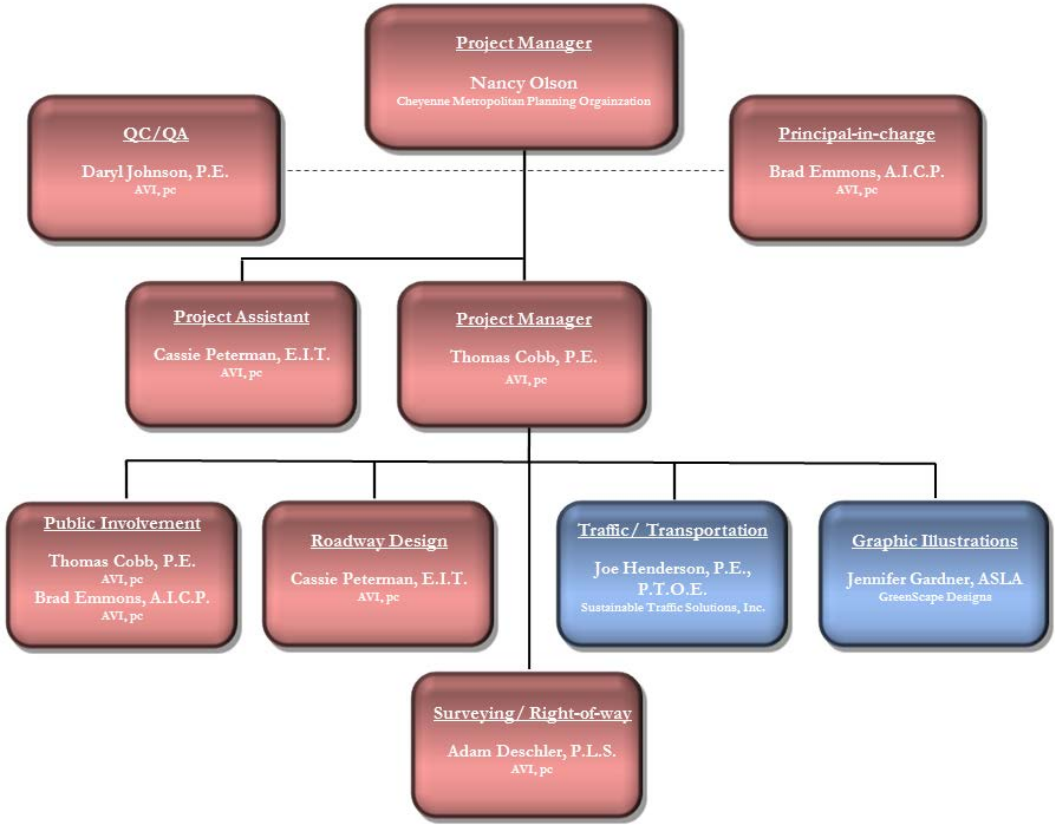
CHEYENNE MPO

THE GREAT SEAL OF LARAMIE COUNTY 1867 WYOMING

ENGINEERING PLANNING SURVEYING PC

INTRODUCTIONS

- Tom Cobb
  - AVI, pc
  - Project Manager
- Nancy Olson
  - Cheyenne Metropolitan Planning Organization
  - Project Manager

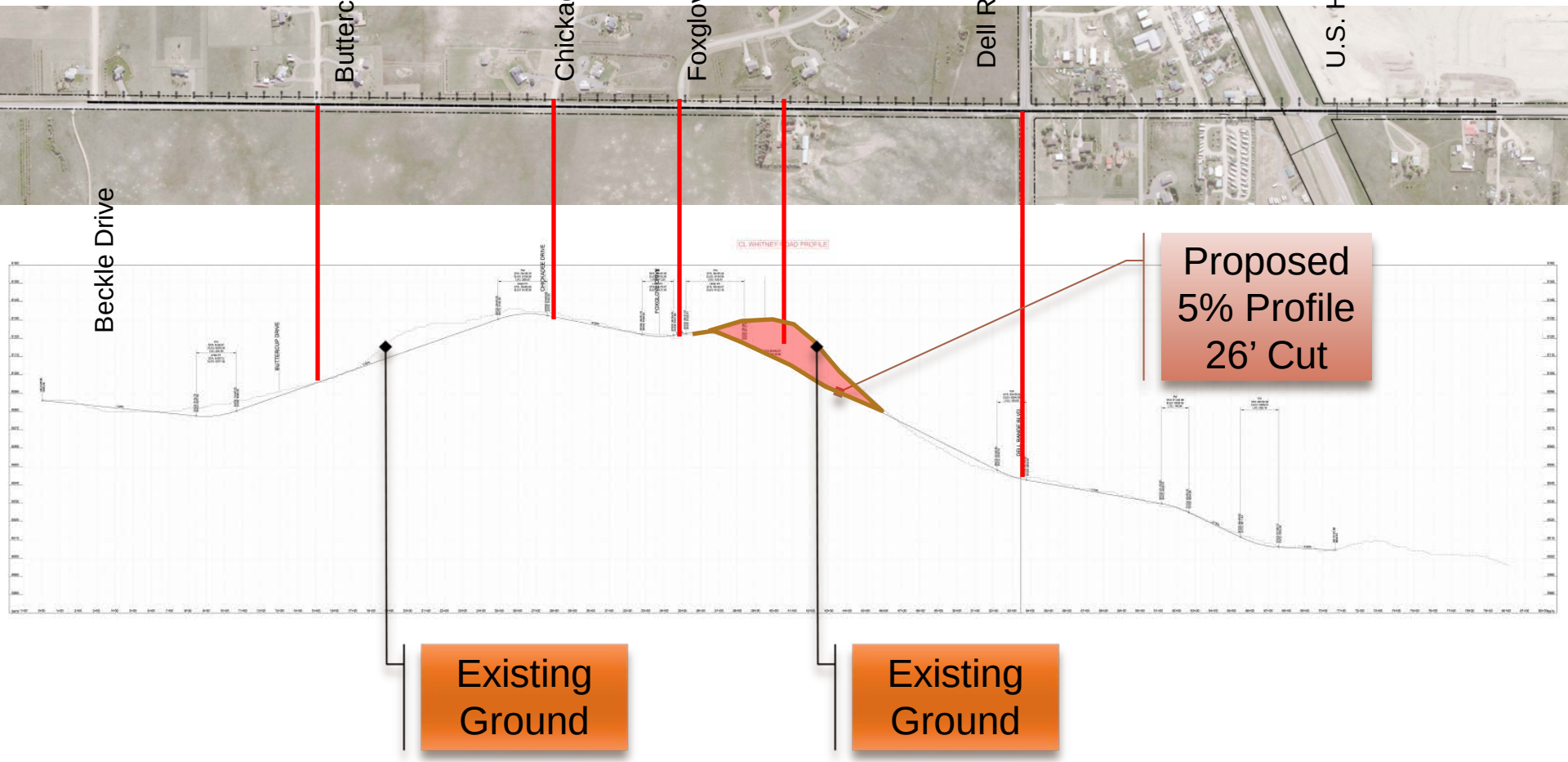


PURPOSE, OBJECTIVES, AND GOALS

- **Purpose**
  - Create a comprehensive planning document that will optimize safety, growth and fiscal responsibility.
- **Objective**
  - Development of a 10% conceptual design for Whitney Road between U.S. 30 and Beckle Road/ Storey Blvd.
- **Goals:**
  - Improve intersection and roadway design,
  - Address considerations such as drainage and snow drifting

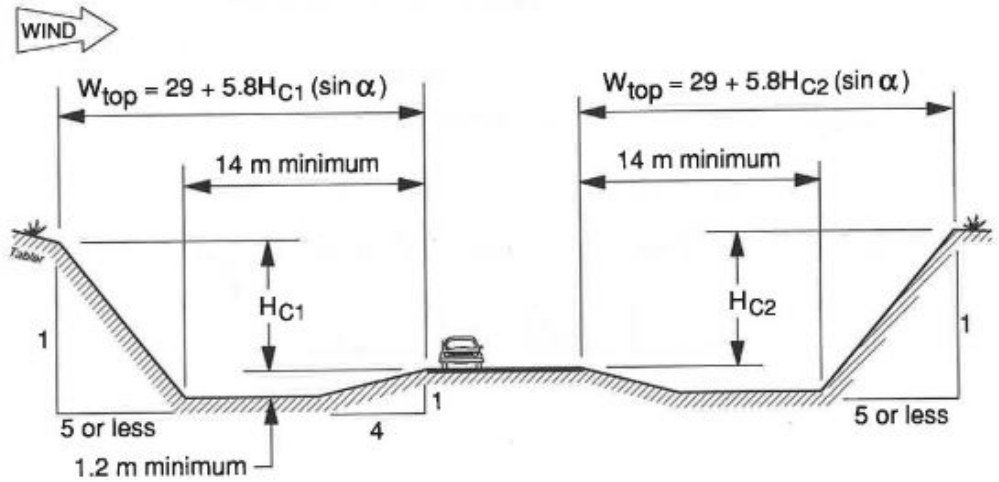
CONSTRAINTS AND OPPORTUNITIES

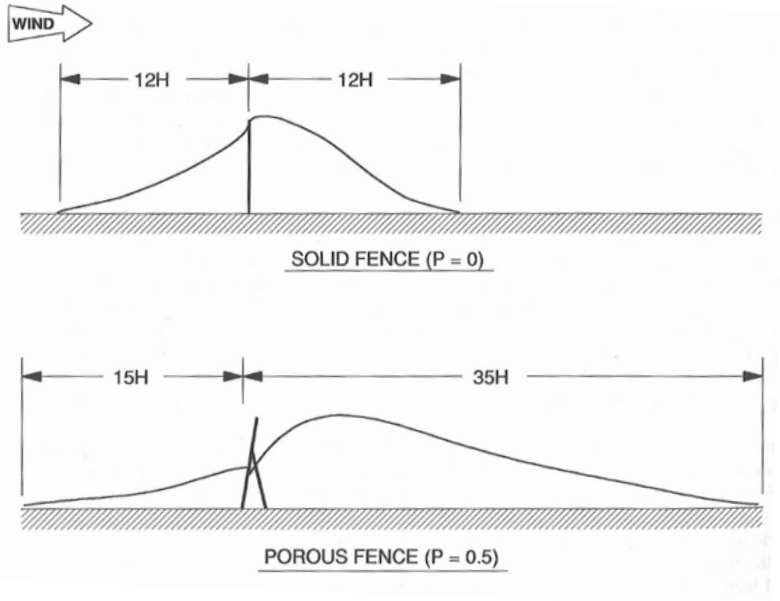
- Profile



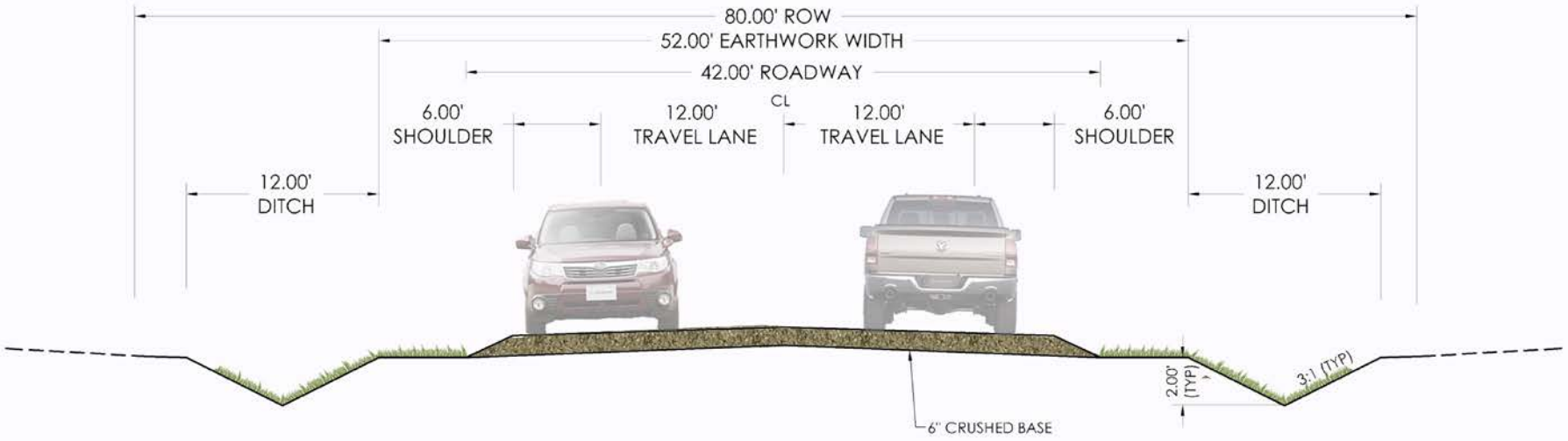
CONSTRAINTS AND OPPORTUNITIES

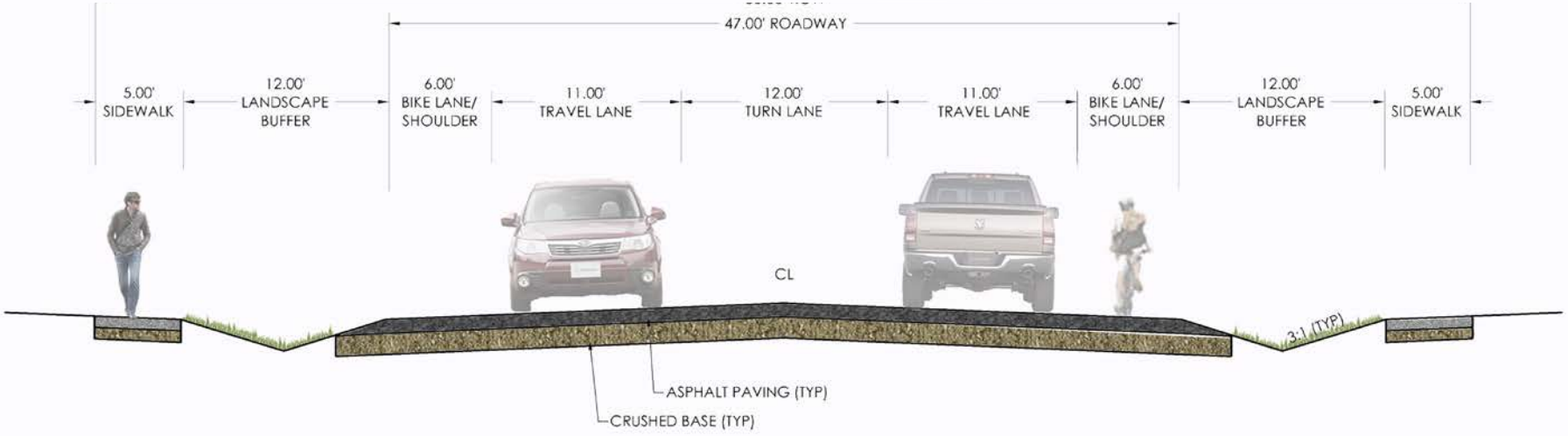
- Snow Transport Mitigation Options
  - Cut Sections
  - Snow Fence



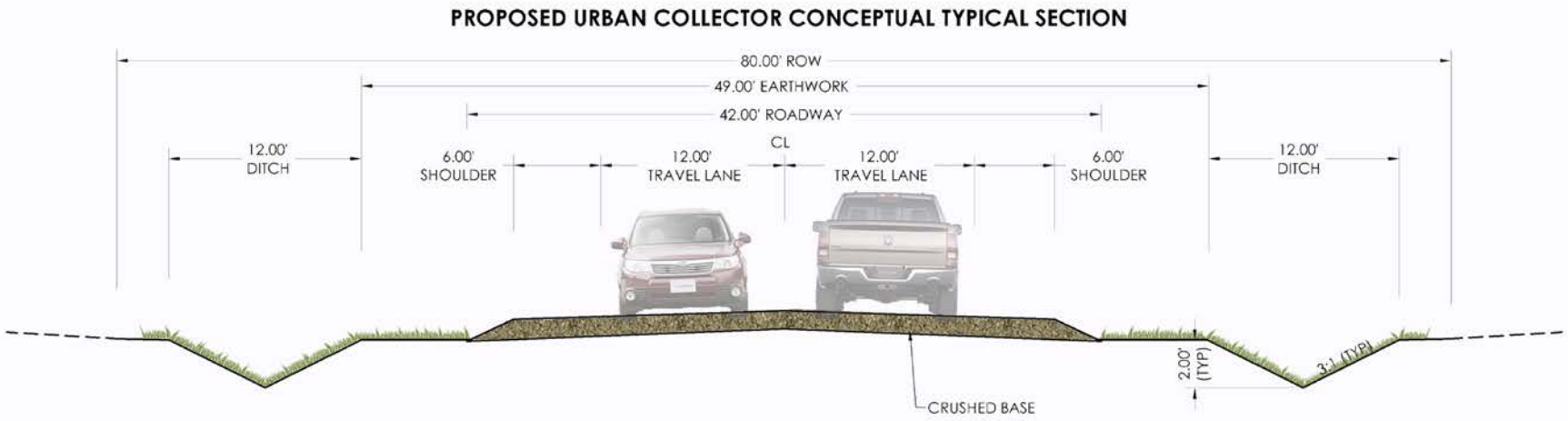


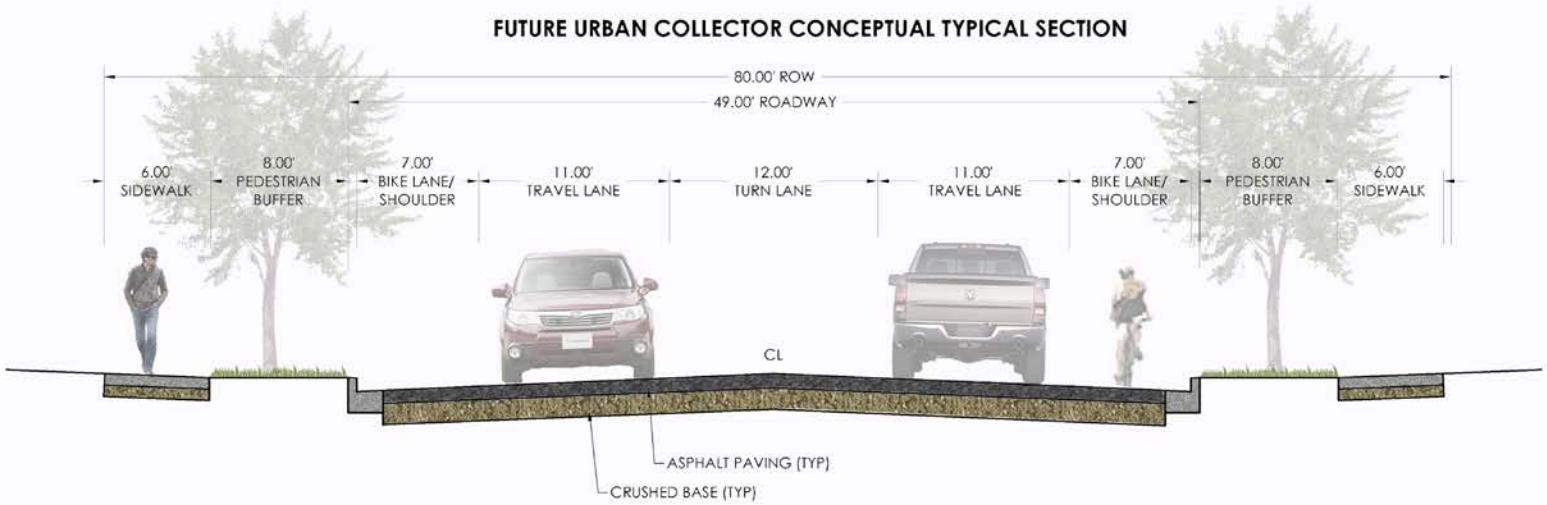
INITIAL CONCEPTS





INITIAL CONCEPTS



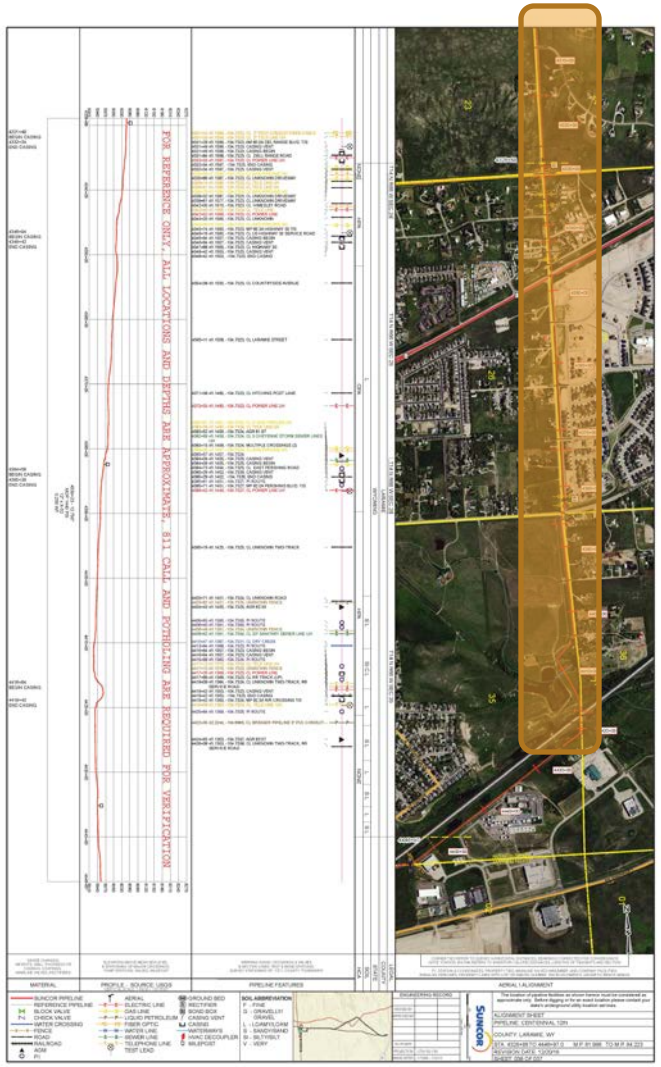


CONSTRAINTS AND OPPORTUNITIES

- Utilities
  - Blackhills Energy
  - High West Energy
  - Suncor Energy
  - Plains All American Pipeline System, LLC
  - Qwest
  - BOPU

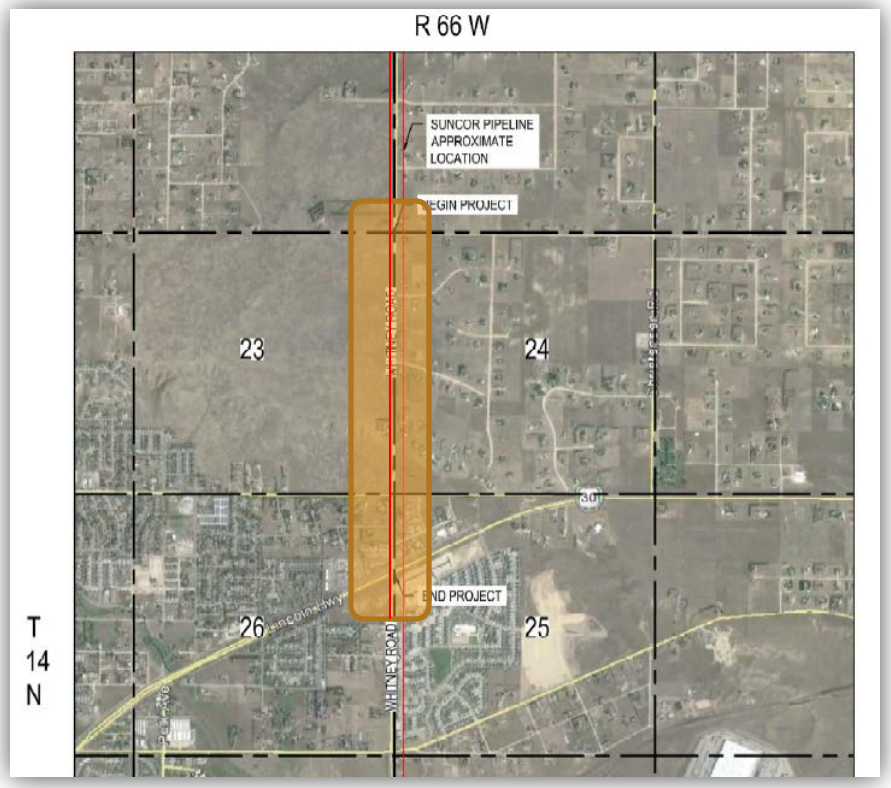
CONSTRAINTS AND OPPORTUNITIES

- Suncor Energy
  - Met 5/10/17 at Suncor Office
    - 12.75” Steel Crude Line
    - 1,440 psi
    - 2’ to 5’ deep (East Side)
    - Dillon R. Ohrt, SR/WA
      - Right of Way and Public Awareness Coordinator



CONSTRAINTS AND OPPORTUNITIES

- Plains All American Pipeline System, LLC
  - 16” Steel Crude(West Side)
  - 4’-3” to 14’-5”
  - Gregg Werger
    - Plains All American Pipeline
    - Manager-Pipeline Commercial Operations



WHAT OPTIONS ARE AVAILABLE TO WORK AROUND THE PIPELINE?

- Additional available pipeline details
- What additional pipeline details are available (i.e. Horizontal and vertical position of pipeline, plan and profile documentation)?
- Do you have documentation on the easement for the pipeline?
- What is the ability to isolated relocate/ realign
  - Retaining Walls, Realign Vertical and/ or Horizontal
    - Procedure or guidelines
    - Constraints
    - Typical Costs
    - Timing

WHAT TO EXPECT?

PROJECT MILESTONES	MILESTONE DATES
Notice to Proceed	**March 1, 2017**
Initial Kickoff Meeting MPO	**March 22, 2017 @2:00**
Traffic Counts	**April 4, 2017**
Steering Committee Meetings	**May 9, 2017; November, 2017; December, 2017**
Open House/Public Meeting	November 8, 2017
Draft Plan	October, 2017 - November
Submit to MPO for Final Adoption	December, 2017
Presentation to the Governing Body	February, 2018

Whitney Road Corridor Study

Restway Travel Park Meeting

2-May-19

* List of Attendees*

Please Initial to Confirm attendance	NAME	COMPANY	EMAIL	CELL/PHONE
TMM	Tom Mason	MPO	tmason@cheyennempo.org	637-6299
TQC	Tom Cobb	MPO	tcobb@cheyennempo.org	638-4384
	Scott Sherman	Restway Travel Park	restwaytravelpark@yahoo.com	630-9812
KSP	Karen Sherman	Restway Travel Park	restwaytravelpark@yahoo.com	631-9256
	Chris Brennan	WRN	Christopher@wrnlawfirm.com	432-9399
GW	Gay Woodhouse	WRN	Gay@wrnlawfirm.com	432-9399

DAVE BUMANN LCPW DBUMANN@LARAMIECO.COM 633-4307

Whitney Road Corridor Study

Restway Travel Park Meeting

13-Nov-18

* List of Attendees*

Please Initial to Confirm attendance	NAME	COMPANY	EMAIL	CELL/PHONE
	Tom Mason	MPO	tmason@cheyennempo.org	637-6299
TDC	Tom Cobb	MPO	tcobb@cheyennempo.org	638-4384
	Scott Sherman	Restway Travel Park	restwaytravelpark @yahoo.com	634-3811
KS	Karen Sherman	Restway Travel Park	" "	634-3811
KB	Kelly Bartlett	Restway Travel Park	" "	634-3811